

JUN 19 1922

AMERICAN ARTISAN and Hardware Record

Vol. 83. No. 24. 620 SOUTH MICHIGAN AVENUE, CHICAGO, JUNE 17, 1922. \$2.00 Per Year.

The Weir Steel GAS AND SOOT CONSUMING *Furnace*



BURNING
Soft Coal
and its SMOKE
AND GASES
with the Weir
is a **FACT**.

The Weir
FIREPOT
provides per-
fect combus-
tion.

MORE HEAT
from
LESS FUEL

THERE is
not a more
thorough GAS,
SMOKE AND
SOOT burning
device on the
market than
the WEIR gas
and soot con-
suming FIRE-
POT.

IT IS a well known fact that ordinarily in burning soft coal about half its heating value in rich burnable gases in the form of black smoke goes up the chimney.

The patented construction of the fire pot used in the Weir causes all SMOKE and GASES to be *burned* thereby securing *all the heating value* from the fuel.

Your prospective customers who want not only a high class furnace, but also *the* furnace that BURNS SOFT COAL effectively and economically will want the WEIR.

Let us tell you how we can send these prospects to you to buy the WEIR.

Write today for complete catalog and special circular, "It Does Save Coal"

The MEYER FURNACE CO. - - PEORIA, ILL.

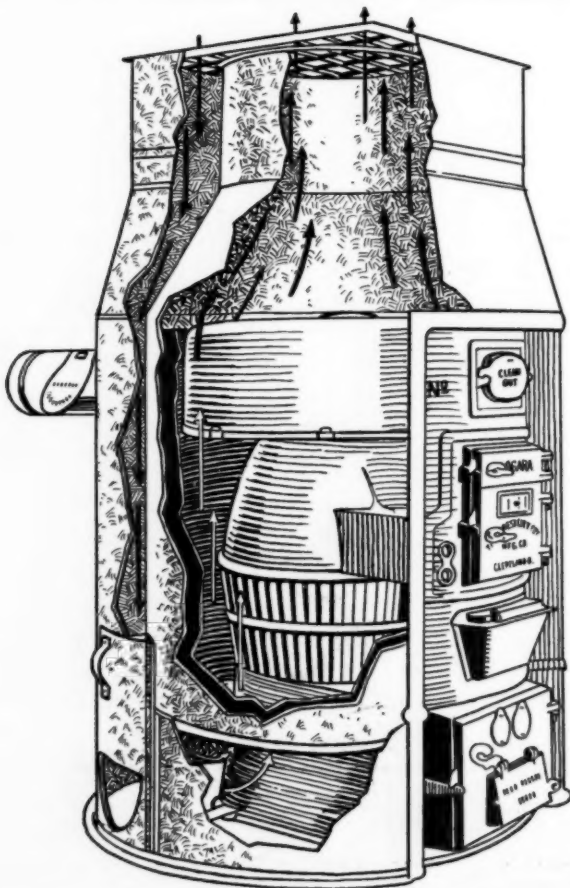
MAHONING Furnace



**This company was
established in 1902**

*We will be here ten,
twenty or fifty years
from now ready to
stand back of our
dealers.*

THE MAHONING FOUNDRY CO.
622 Poland Ave.  **YOUNGSTOWN, OHIO**



NIAGARA PIPELESS FURNACES

Saves one-third of the fuel.

A super-heater.

Burns any kind of fuel.

***Durable, efficient, and
more than economical.***

Write for catalogs, prices and terms.

Made by

**THE FOREST CITY FOUNDRY
& MANUFACTURING CO.**

1220 Main Avenue

Cleveland, Ohio

*One of the oldest manufacturers
of furnaces in the United States.*

Founded 1880 by Daniel Stern

Thoroughly Covers
the Hardware, Stove,
Sheet Metal, and
Warm Air Heating and
Ventilating Interests

AMERICAN ARTISAN and Hardware Record

Address all communications
and remittances to
AMERICAN ARTISAN
AND
HARDWARE RECORD
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HALF AND HALF IS RIGHT ONLY WHEN IT IS FIFTY-FIFTY.

A few weeks ago the United States Supreme Court rendered a decision against a hosiery company which is of more than ordinary importance, although probably very few business men paid much attention to it at the time.

The decision was in line with former decisions with regard to the Pure Food act in which the so-called "commercial practices and usages" of calling a can of beans containing less than a pound a "pound can," etc., were prohibited.

Milton E. Lissberger, President of the Marks Lissberger & Son, Incorporated, manufacturers of white metals, Long Island City, New York, made an address a few days ago before the Metal Branch of the National Hardware Association at its meeting in Cleveland, in which he called attention to practices in the metal trades that were affected by this decision, such as for example the stamping of solder as "half and half," when the proportion of tin and lead was all the way from 49 and 51 to 40 and 60.

In the furnace business we have so-called 24-inch fire pots that measure less than 23 inches, and 1,000-pound furnaces that weigh as low as 750 pounds. We have registers that are supposed to have a free air space of 65 per cent when as a matter of fact they can not possibly furnish more than 50 per cent.

We have in builders' hardware so-called bronze door locks and fittings that are made of cast-iron with a bronze plating. We have

so-called brass screws that originated from the scrap iron yard and were "dipped" in a very thin brass lacquer.

One of the features of the educational campaign carried on by the Copper and Brass Research Association is the work they are doing to show why it is poor economy to use these cheap imitations of real copper, brass or bronze.

The retail hardware merchant, the sheet metal contractor, the warm air furnace installer—every man who is in business to sell anything made of metal can well afford to call his customers' attention to the fact that when he sells any article it is exactly what he claims it to be and not some cheap imitation,

There are people who will buy only low priced merchandise. It is the progressive merchant's business to see that they know just what they are buying—and especially when they buy from him.

Calling a spade a spade, is good practice and when you stick to that policy, there can be no just claim against you.

The following sentence from the decision referred to is worthy of special notice:

"Everything which raises the standards of business morality benefits business."

During periods of heavy competition for sales unfair practices are likely to creep in. Now that we are on the road to good times once more, let us keep our business morality up to the standards of this decision.

Random Notes and Sketches.

By Sidney Arnold

AN explanation has just been found for the uncommon sense of exhilaration experienced in practically all the radio receiving sets in the New England states. The entire state of Vermont has become a broadcasting station of joy by the presence there on their honeymoon of Mr. and Mrs. Charles S. Trott.

Mr. Trott, Sales and Advertising Manager of Parker Supply Company of New York, was married to Miss Ida Evelevsky of Springfield, Massachusetts. The ceremony was performed Sunday, June 4th, at Victory Hall, Springfield, Massachusetts.

* * *

Eleven pike in one day—three of them over ten pounds in weight—is the record achieved by George



B. Carr of Carr Supply Company, Chicago, Illinois.

He is fishing at Laona, Wisconsin. He is having the time of his life and in his heart of hearts doesn't care if he never comes back to Chicago.

The number and weight of the fish are attested by witnesses whose veracity has never been questioned in the history of the State of Wisconsin.

* * *

In choosing a "safety first" slogan for one's business it is well to make it sound plausible, says R. L. Kahle of Quick Meal Range Company

Division American Stove Company, St. Louis, Missouri. He quotes the following example:

During a fire prevention campaign the teacher had impressed upon her pupils the slogan, "Don't use matches carelessly. Remember the great Chicago fire."

Later, during a health campaign the slogan, "Don't spit," was introduced.

"Why do we use this slogan, Johnny?" asked the teacher. "Don't spit—remember the great Johnstown flood," gravely answered Johnny.

* * *

All near-sighted men should wear glasses in order to avoid needless embarrassment, says Frank I. Eynatten of Peoria, Illinois, secretary of the Illinois Auxiliary.

He relates a story by way of illustration:

She was extremely thin and very sensitive on the subject. He was near-sighted. Absently, he had been running through a bunch of pictures on the parlor table, holding each close to his eyes.

"I think your new photographs are lovely," he remarked. "Such an improvement! You're growing more beautiful every day."

She burst into tears.

"You're horrid!" she cried. "You know those aren't my photographs. They're X-ray pictures the doctor took of me the other day."

* * *

The tragic side of bootlegging is suggested in this bit of grim humor sent me by Josiah Borden of Borden Stove Company, Philadelphia, Pennsylvania:

"I am ready to deliver, sir," reported the prosperous bootlegger's assistant as he rolled around in the delivery limousine one morning. "I am to make the rounds of all the houses with blue cards in the windows, you say?"

"Yes," directed Mr. Boozeshine.

"But—ah—wait. Not all of them. You need not leave anything at any of the houses with crepe on the door."

* * *

R. J. Fulton, sales manager of the Hoosier Stove Company, Marion, Indiana, was commenting on a certain governmental bureau:

"It's a mighty polite bureau," he said thoughtfully. "Why, they never fire a man in that department. They ask him to tender his resignation. And tendering, you know," and Friend Fulton smiled, "tendering makes it less tough."

* * *

Acknowledgment is hereby made to Joseph Stearns of Stearns Register Company, Detroit, Michigan, for this story:

Pat had been hurt. It wasn't much more than a scratch, but his employer, with visions of being obliged to keep him for the rest of his life, sent him to a hospital for examination. The house surgeon looked him over and then pronounced:

"As subcutaneous abrasion is not observable, I do not think there is any reason to apprehend tegumental cicatrization of the wound."

"Ah," said Pat in relief, "ye took the very words out of me mouth."

* * *

The diplomats are not all in the service of governments, in the opinion of W. L. Seelbach, treasurer Walworth Run Foundry Company, Cleveland, Ohio.

He relates the subjoined incident in support of his opinion:

"I've decided on a name for baby," said the young mother. "I shall call her Euphrosyne."

Her husband did not care for the suggestion, but being a tactful fellow, he was far too wise to say so.

"Splendid!" he said cheerfully. "The first girl I ever loved was called Euphrosyne, and the name has very pleasant memories for me."

There was a brief silence. Then: "We will call her Elizabeth, after my mother," said the young wife firmly.

The Latest News About Stoves and Ranges

Items and Discussions of Interest to the Manufacturer and Retailer of Kitchen Ranges, Heating Stoves and Accessories.

Some Forms of Solid-Top Gas Stoves Are Harmful.

Some solid-top gas stoves without a flue connection are a menace to health and do not even possess the advantage of increased economy in gas consumption.

The Bureau of Standards of the Department of Commerce has been investigating the principles involved in the designing of gas stoves and burners and has found that some devices which are being sold to the public as "gas savers" are in reality very dangerous articles.

One scheme which it is understood is in quite general use is to place over an ordinary gas stove designed with a grid top and without a flue, a solid metal top covering the whole area of the stove.

The use of such an arrangement is said to give a larger heating surface, so that articles can be heated although not directly over the burner.

Practical tests have shown that the heat is insufficient to do any cooking at all except directly over the burner and even over the burner, it takes twice as long to boil a kettle of water as over an ordinary open top.

The higher this closed top is above the flame the less dangerous it will be from the point of view of generating poisonous gases, but the greater this distance is made, the less will be the heating effect.

The Bureau's work shows that the main result of using any device of this kind is to cut down the heating efficiency and to produce large quantities of carbon monoxide, an extremely poisonous gas.

The Bureau wishes to gather as much information as possible about this whole problem.

It requests users of these solid tops to write to the Department of Commerce concerning results se-

cured. Address the Bureau of Standards, Department of Commerce, Washington, D. C., attention of the Gas Engineering Section.

Now Is a Good Time to Quickening Sales of Oil Stoves.

Right now is a good time to put forth special effort toward enlarging the volume of your sales of oil cooking stoves for home and camping purposes.

Sit down and make a mental review of your methods of selling oil stoves.

Study the advantages of oil stoves in the manufacturers' literature and in the facts of your own experience.

Inasmuch as none of us is perfect, you will find some weak spots in your selling arguments.

Devote some of your time to strengthening your forces of salesmanship with regard to oil stoves.

The season for camping, fishing, and motor outing has already started, and there is plenty of business to be had in the sale of camp stoves of various types, with or without oil burners.

When you have made the improvements suggested by such an analysis, then get up a new set of oil stove advertisements and word them in the same way in which you talk.

Go out after more business along this line.

Clark Jewel Intermediate Catalog Is Ready for Distribution.

Intermediate Catalog No. 115 of Clark Jewel Gas Stoves of George M. Clark & Company, Division American Stove Company, 179 North Michigan Avenue, Chicago, Illinois, is ready for distribution among dealers.

All the gas stoves illustrated and

described in this catalog are equipped with the Lorain Oven Heat Regulator.

This device gives a standardized measure of heat, as setting the wheel at the desired notch is declared always to produce the same heat and so give the same cooking and baking results.

To Win Trade, Follow the Irish Lawyer's Method.

A story is told of an Irish lawyer, who, being asked how he always managed to get a decision from a jury, replied, "I make 'em understand! First I tell 'em what I'm going to tell 'em; then I tell 'em; and then over and over again I tell 'em what I told 'em."

In the foregoing lies one of the greatest elements in successful advertising, versus the intermittent type of publicity, wherein an advertiser "tells 'em what he is going to tell 'em," and then doesn't follow up this lead with conscientious, continuous telling.

Or where the advertiser is of another type who simply abruptly "tells 'em" without any introductory matter leading up to his "telling 'em" and stops there, or he is of a third type which, concluding that he has told enough when he has once or twice or thrice told his story, stops, instead of continuing to tell it again and again, and many times again, each time couched in either changed phraseology, or change of contour of copy, or both, which changes help both to drive home and give spice to the telling of the old, old story in a way to make it new.

The way to advertise is the method of the Irish lawyer, first "tell 'em what you are going to tell 'em," then "tell 'em," and then many times "tell 'em what you told 'em."

Events and Progress of the Hardware Trade.

What the Retailers, Jobbers and Manufacturers Are Doing.
Latest Selling Methods and Experiences of Successful Men.

Chicago Hardware Dealers Get Ready for Annual Outing.

Announcement is made by William Triesselmann, 3003 Belmont Avenue, chairman Entertainment Committee Chicago Retail Hardware Association, that the annual outing of the organization will be held Wednesday, July 19th, at River Grove, Willow Springs, Illinois.

A lively program of games and other diversions is being prepared and a number of prizes will be offered for winners in the various contests.

Southern Hardware Jobbers Appeal from Federal Trade Commission.

Holding that the decision of the Federal Trade Commission against the Southern Hardware Jobbers' Association charging them with unfair competition, is unsupported by facts and testimony, an appeal has been made to the United States Circuit Judge of the Fifth District for a review of the case.

Judge R. W. Walker, United States Circuit Judge, has granted an appeal and has ordered the Federal Trade Commission to certify and file in his Court a transcript of the record in the case.

It is the confident belief of all the members of the organization that a review of the proceedings will result in a complete vindication of the Southern Hardware Jobbers' Association.

Ohio Hardware Men Form a District Association.

Hardware dealers from Summit, Medina and Portage counties, Ohio, met Thursday night, June 8th, in the offices of the Akron Merchants' Association for the formation of a retail hardware district organization.

The meeting was attended by 75 interested members.

President George Pfarr presided. He told of the necessity of co-operation among dealers.

Following his address Willis Pettit was named vice-president.

The following committees and chairmen were appointed: Membership, G. F. Reinker; finance, Crannell Morgan; entertainment, Irving Barth; convention, John Getz.

The next meeting will be held on July 7.

Trade-Mark Is Registered in Patent Office.

Under number 156,619, The Cleveland Twist Drill Company, Cleveland, Ohio, has obtained United States Patent Office registration for the trade-mark depicted herewith.

The particular description of goods to which it applies is metal



working small tools, namely, sockets, drill holders, drill chucks, arbors, mandrels, taps, mills, milling cutters, counter sinks, and counter bores.

Application for registration was filed December 31, 1921, and the Company claims the use of this trade-mark since September 15, 1893.

Gives List of Committees for Hardware Congress.

Various committees who will have charge of the entertainment features of the National Retail Hardware Congress, to be held June 19th to 23rd at Hotel Sherman, Chicago, Illinois, are as follows:

Committee on Theater Party—William E. Stauber, Chairman; Mr. B. J. Hawkins, Mr. David Zweifel, Mr. F. G. Russell, Mr. E. A. Burke.

Committee on Auto Trip—Mr. Herman G. Gnadt, Chairman; Mr. Wilber Connell, Mr. S. Koehler.

Group No. 1 Committee—Mr. and Mrs. S. Koehler, Mr. and Mrs. Gus Engelhardt.

Group No. 2 Committee—Mr. and Mrs. David Zweifel, Mr. and Mrs. Wilber Connell.

Group No. 3 Committee—Mr. and Mrs. Fred Ruhling, Mr. and Mrs. John Wallace.

Group No. 4 Committee—Mr. and Mrs. A. Brauer, Mr. and Mrs. Charles Stasek, Mr. Herman G. Gnadt.

Committee on Marshall Field & Co.—Ladies Committee.

Committee on Boat Trip—Mr. William Triesselmann, Chairman Refreshment Committee; Mr. John Schubert.

Committee on Dancing—Mr. J. Claridge, Chairman; Mr. Martin Engelhardt.

Committee on Trip to Waukegan—Mr. Meaker, Mr. Patterson, Mr. H. A. Squibbs, Mr. E. A. Burke.

Ladies Committee—Mrs. John Schubert, Chairman; Mrs. Gus Engelhardt, Mrs. John Wallace, Mrs. Fred Ruhling, Mrs. S. Koehler, Mrs. William Triesselmann, Mrs. A. Brauer, Mrs. Charles Stasek, Mrs. William E. Stauber, Mrs. Wilber Connell, Mrs. John Hora, Mrs. Frank Burke.

The Big Ship "Seeandbee" Is Now on the Route.

The largest and most costly passenger steamer on inland waters of the world, the Great Ship "Seeandbee," with her sister ship, Steamer "City of Buffalo," is now operating daily between Cleveland and Buffalo.

The Great Ship "Seeandbee" is 500 feet long, 98 feet 6 inches wide, has 500 staterooms and 24 parlors de luxe, providing sleeping accommodations for over 1,500 passengers. In magnificence of appointment she probably is not excelled by any vessel afloat.

Passengers may board C. & B. Line steamer at Cleveland or Buffalo any evening at 9:00 (Eastern standard time), enjoy a night of refreshing sleep and arrive at destination following morning at 7:30.

A special Car-By-Steamer service is maintained for automobile tourists and it is evident from the ever-increasing number of motorists who place their cars aboard C. & B. Line steamers that this service is immensely popular.

Advertising Sporting Goods Puts You into Close Touch with a Big Part of the People.

There Is Substantial Profit in Such Goods and the Sales Bring You Customers for Other Articles of Hardware.

COFFIN nails do not lend themselves gracefully to profitable advertising.

You may have in your hardware store other hardware which would be suitable for coffins or at least for the boxes in which coffins are enclosed, but it would not pay you to devote much newspaper space to advertise them to the general public.

In other words, the best advertising is that which will reach the largest average number of people and influence them to satisfy their requirements by buying goods at your store.

By pushing to the front the class of commodities which are most in demand, therefore, you get in touch with the biggest number of prospective customers.

This is quite plain to anyone who gives it a moment's thought.

Demand varies with the seasons of the year.

Snow shovels and ice skates are not in demand in Yuma, Arizona, at any time of the year and there is no call for them in Chicago, Pasadena, Tampa, or Niles Center during the spring, summer, and fall.

This is only another way of saying that the selling activities of the store should be concentrated upon the goods which are most in demand.

Of course, certain hardware commodities sell all the year round and do not require intensive selling effort.

But in order to sell all-the-year-round commodities in larger volume, you must attract the people to your store.

Therefore, you should adjust the selling forces of your business in such a way as to get the biggest returns from the day to day demand of the people.

In looking about for a medium

which will enable you to gain the attention and hold the interest of a big percentage of the people at this time of the year, you will find that sporting goods admirably serve that purpose.

There are many methods by which you can win the notice of the people.

For example, you can start a fishing contest in which prizes are awarded for the biggest bass or trout caught with rod and reel.

But in making up your advertisement of such a contest you must be careful not to violate any of the Federal laws prohibiting lotteries.

Contests in which prizes are awarded are permissible where no charge or consideration of any kind is required of those who may desire to compete. Contests which involve the purchase of goods or services are in violation of the postal lottery laws.

So, you can make your advertisement broad and liberal, relying upon the good will which it will create to induce people to buy fishing supplies at your store.

A sportsmen's fishing contest is certain to appeal to a great many people. No one as yet has satisfactorily worked out the psychology of fishing—not even the renowned Isaak Walton.

Inches and ounces have a trick of multiplying themselves when the matter of describing the fish that got away comes up for conversation.

There is a pleasant rivalry among those who fish. The majority of fisher folk seem to be much prouder of the fish they catch than of any other achievement of their lives.

So, a fishing contest is a great stimulus to trade.

Another part of the sporting goods trade which yields good profit to the dealer is the sale of guns, rifles, and ammunition.

The Palace Hardware Company, whose advertisement is herewith reprinted from the *San Francisco Journal*, San Francisco, California, furnishes an example of effective merchandising in offering special price concessions for high-grade shot guns and rifles.

Only shot guns and rifles of well

GUNS Below Cost!

We are disarming! The balance of our stock of rifles and shot-guns will be closed out at a sacrifice. This is your chance to get a high-grade gun at less than actual cost.

Shotguns

Ithaca-Field (Ejector) 16/30—
Was \$52.50—Special \$43
Parker-Trojan 12/30—
Was \$55.00—Special \$45
L. C. Smith "Ideal" 16/28—
Was \$55.50—Special \$47

Rifles

Savage "30"—
Was \$46.00—Special \$36
Winchester 25/35 T. D.—
Was \$54.25—Special \$41
Mannlicher 6.5 mm.—
Was \$55—Special \$44.50
Remington Carbine 30/30—
Was \$49.50—Special \$40
Remington Automatic "25"—
Was \$62.00—Special \$50
Remington Repeater 22 short—
Was \$25.25—Special \$20
Similar reductions on various other models. Call or send for complete price list.

**PALACE
HARDWARE CO.**
SAN FRANCISCO'S LEADING
HARDWARE STORE
581 MARKET ST.
Sutter 6000
"CORBINWARE"

Advertisement of Palace Hardware Company, Reprinted from the *San Francisco Journal*, San Francisco, California.

established reputation are listed in this advertisement.

The prices are clearly stated, and the old price is given first, followed by the new price, showing a very definite gain in favor of the purchaser.

In every community there are people who enjoy hunting with shot guns and rifles.

Moreover, the growth of rifle clubs in all parts of the country is so continuous and steady that there is a constant prospective market for

ment of the Portage Lake Hardware Company, Limited, whose advertisement is reproduced herewith from the *Houghton Gazette*,

chandising because it increases the volume of sales and secures the good will of definite organizations in the community.

Whenever a hardware dealer succeeds in getting his store recognized as the official source of supplies for a club or school, he acquires a strong hold upon the favorable interest of the neighborhood.

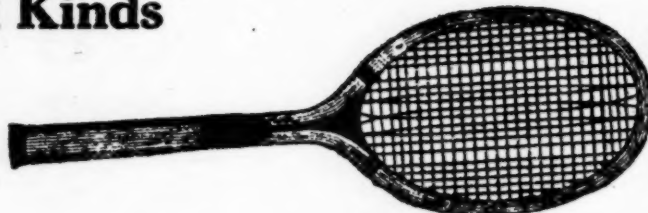
Especially when he follows up this success with active participation in community affairs and becomes known as a good fellow, he has little difficulty in winning the regard of the parents of the young folk of school and community clubs.

Then when the question arises of buying paints, screens, locks, household tools, kitchen utensils, stoves, ranges, washing machines, or other commodities, he is likely to have first opportunity to make the sale.

A graphic way of presenting fishing tackle to the imagination of the prospective customer is used by the Soo Hardware Company, in the advertisement herewith reprinted from

Sporting Goods

All Kinds



We are jobbers and make special prices to clubs

CENTRAL HARDWARE

Advertisement of Central Hardware Store, Republished from the *Ironton Register*, Ironton, Ohio.

the sales of rifles in practically every hardware dealer's territory.

In the old days when the red flannel shirt was the badge of sturdy manhood, lawn tennis was looked upon as a game fit only for mollycoddles.

But times have changed and standards of value have undergone profound alterations.

In our day, tennis is a game for upstanding he-men. It calls for speed, cleverness, muscular control, and physical fitness of the highest order.

It is a game which is growing in favor with the general public.

Hence, the hardware dealer who features lawn tennis supplies in his advertising is talking to a widening circle of prospective customers.

The Central Hardware Store of Ironton, Ohio, whose advertisement is reprinted herewith from the *Ironton Register* of that city, uses the lawn tennis racquet as a symbol of sporting goods in this particular copy.

Of a truth, we have progressed very far from the old rough days when a tennis racquet can be accepted as a symbol of sporting goods in general.

It will be noted in the advertise-

Houghton, Michigan, that special terms are offered to clubs and schools for baseball supplies.

WE ARE DISTRIBUTORS OF

Spaulding & Son's Base Ball Supplies

COME IN AND SEE OUR STOCK.

We make special terms to Clubs and Schools.
MONDAY ONLY we will give a Baseball Bat with every

20c ball purchased by boys under eight years old.

Portage Lake Hardware Co. Ltd.

PHONE 91

THE WINCHESTER STORE

Advertisement of Portage Lake Hardware Company, Reprinted from the *Houghton Gazette*, Houghton, Michigan.

The Central Hardware Company of Ironton, Ohio, also offers special prices to clubs.

In the main, this is good mer-

the *Sault Ste. Marie News*, Sault Ste. Marie, Michigan.

More than half of the space of the advertisement is devoted to an

illustration which awakens memories of the joys of fishing in by-gone days.

Only a cynic of the most pronounced type would remain un-

Hardware Company devotes the reading matter of this advertisement to an argument in behalf of quality.

The advantage of these different

with things which most of the people of the community like and enjoy, this kind of publicity helps individualize the hardware merchant in the minds of the folk.

It gives him a friendly, precise personality, and makes the people think of him as a human being rather than as a proprietor of a store who is only vaguely thought of in connection with the name of the store.

Hold Frequent Store Meetings with Your Employees.

It may soothe your vanity but it will not increase your bank account to conduct your store from the angle of an absolute monarchy.

The successful merchant is the one who frequently confers with his employees and who works with them to the end that they may work with him instead of for him.

One of the best ways to increase your volume of business is to get all your employees together at frequent intervals for heart-to-heart talks in store meetings.

Encourage everyone to speak plainly on every topic connected with the business.

Thus, helpful ideas are exchanged, loyalty is promoted, and enthusiasm sustained.

Wants a Position.

I want a place in your store.

I will be one of your greatest workers.

I will get new business for you every day.

I will always be on the job.

I will be on hand before the store opens in the morning.

I will stay and work for you after all others have gone.

I will always be enthusiastic about you.

I will tell everybody about you and your merchandise.

I will increase your efficiency many times.

I won't ask you for a cent of salary.

I am absolutely necessary to your business.

I am the Window Card.

They're Biting

—Just as foolish as trying to shoot a duck with a cap-pistol is the man who goes fishing with inferior tackle. The only fish he'll get will be those that die laughing at his line.

—Our fishing tackle is made for the real fisherman and gives the amateur a decided handicap. They're responsible for most of the fish stories you hear, and you can't help believing them once you see such fishing equipment.

Soo Hardware Co

— Season Opens May 1st —



Advertisement of Soo Hardware Company, Reprinted from the Sault Ste. Marie News, Sault Ste. Marie, Michigan.

moved by the pleasant anticipations of forthcoming joys which are brought up by this charming picture.

Instead of quoting prices, the Soo

types of advertisements of sporting goods does not end with the sale of sporting goods.

By putting the hardware dealer before the community in connection

Suggestions and Plans for Window Displays.

Instructive Examples from Exhibits in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

WINDOW DISPLAY GETS HONORABLE MENTION.

Good use is made of manufacturers' advertising posters in the window display shown in the accompanying illustration.

This display was arranged and put in place by A. Scalise for the

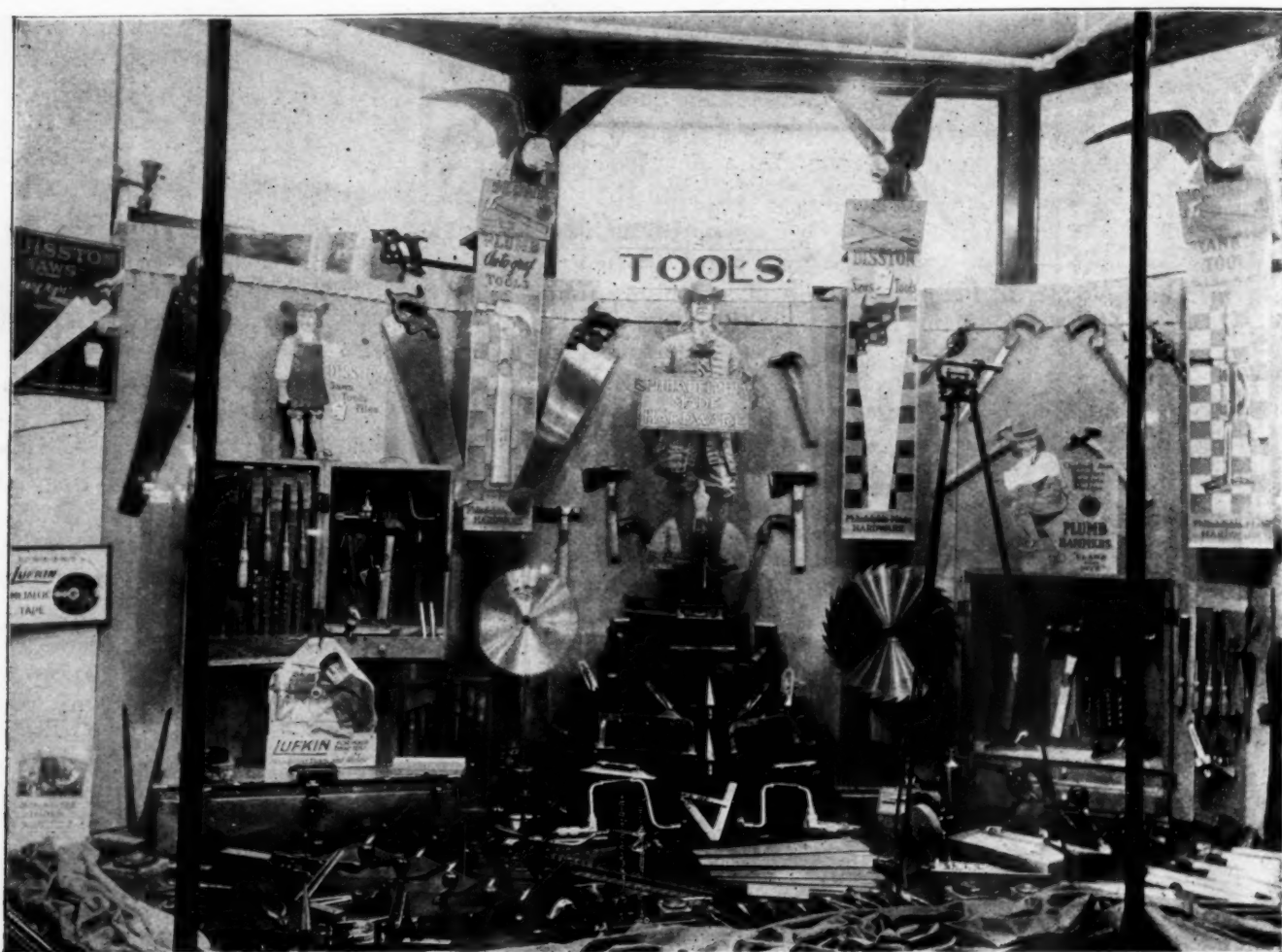
play, which give the impression of brightness, high finish, and good workmanship without glare or dazzle.

This result is achieved by intelligent handling of the background and tools with highly polished surfaces which reflect a maximum of light.

ter I made myself and used for tools only.

"These shelves are constructed of wood covered with black felt."

Without conveying the slightest suggestion of confusion or crowding, Mr. Scalise contrived to introduce a big variety of tools into this display.



Window Display of Tools Designed and Arranged by A. Scalise for the Palace Hardware House, 913-915 State Street, Erie, Pennsylvania. Awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

Palace Hardware House, 913-915 State Street, Erie, Pennsylvania.

It is so well planned that it was awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

Uncommonly distinctive are the lighting effects of this window dis-

As described by Mr. Scalise, "the background is of beaver boards painted light gray with top board painted white.

"This, I think, shows up the tools to best advantage.

"Advertising literature and signs were used throughout the display.

"The shelves or steps in the cen-

He arranged and grouped them in such a manner as to render each class distinct and complete in itself.

The appeal of this window display is not only to mechanics who must have tools for their daily tasks, but to every householder as well.

Particularly commendable is the

feature of the window display which shows certain sets of tools combined in convenient tool boxes.

Often, it is comparatively easy to sell a complete set of tools in a convenient tool box to the householder who is thinking of buying only one or two tools which he happens to need at the time of purchase.

By assembling a set of useful tools in such a container, the law of association of ideas is brought into play and the prospective customer is strongly influenced to increase his purchase—either by buying the case with its full assortment or by adding other tools to those which he possesses with the idea of approximating such an assortment of tools.

This window display resulted in a notable increase in the volume of sales during the period that it was on exhibition.

Supreme Court Decides in Favor of Accurate Trade Terms.

A general clearing up of trade terms in all lines of industry may be expected as a result of the decision of the United States Supreme Court in the case of the Winsted Hosiery Company, predicts The Bank of America in a pamphlet on the subject.

Every business in which trade names and brands have come to bear meanings other than the original and which are no longer accurately descriptive, will now have to revise them drastically because the Federal Trade Commission, in this decision, has proved its power to abolish them.

While the decision deals specifically with the designation "wool" for material which is not all wool, it is applicable to all lines of business, particularly, says The Bank of America, to textiles and clothing, furniture and house-furnishings, and the metal trades.

"American business rises to a new plane of integrity and dignity," says The Bank of America, "and the Federal Government expresses a new vision of its duty in the decision of United States Supreme Court that the buyer of goods shall

be protected from misleading trade names and brands. The decision of the Supreme Court in the case of the Winsted Hosiery Company means the abandonment of 'caveat emptor' as a principle of American business. It means that the seller must now beware—that the United States stands behind business honesty. It means that the people of this country, as consumers, will receive the complete protection of the law.

"The fight has been long and well fought. The 'Printers' Ink' advertising statutes in many states, the vigilance work of the Associated Advertising Clubs of the World, better business bureaus in many cities, courageous publications, trade associations, financial organizations and professional bodies have all done immeasurably valuable and difficult work in protecting the public from the grosser forms of advertising fraud.

"But until now the misleading trade term appeared to be a fixed institution in American business which few were inclined to attack. 'Trade term' had almost become a synonym for 'misleading name.'

"The babel of business terminology has not been merely an expression of underlying laxity of standards—it was also a real cause of them.

"In almost every trade and industry there has grown up a vocabulary in which the relevance of term to meaning has become obsolete.

"Now, wherever the reasonable meaning of a term to a lay buyer differs from an actual description of the product named, the law clearly demands the use of an accurate branding.

"Misleading trade terms have been one of the greatest hindrances to truth in advertising. Where advertising should have been convincing it has merely been persuasive.

"The trade practices enforced by the decision will soon come to be as much taken for granted as the pure food and drug regulations.

"Mahogany' furniture, 'strictly fresh' eggs, 'quart size' utensils,

'sealskin' furs, 'gold' watches, 'panama' hats, 'brass' fittings, 'silk' dresses—all these and many others may be expected to go the way of 'wool' underwear of 90 per cent cotton.

"Everything which raises the standards of business morality benefits business.

"Fair dealing and fair competition make for fair prices and fair profits.

Coming Conventions

National Retail Hardware Association, Chicago, Illinois, June 19, 20, 21, 22 and 23, 1922. Headquarters, Hotel Sherman. Herbert P. Sheets, Secretary-Treasurer, Argos, Indiana.

Master Sheet Metal Contractors' Association of Ohio, Zanesville, Ohio, July 18 and 19, 1922. W. J. Kaiser, Secretary, 123 East Chestnut Street, Columbus, Ohio.

Annual Outing of Michigan Sheet Metal and Roofing Contractors' Association, July 25, 26 and 27, to Grand Rapids, Chicago and Milwaukee. Frank E. Ederle, secretary, 1121 Franklin street, Southeast, Grand Rapids, Michigan.

Sheet Metal Contractors' Association of Pennsylvania, Hotel Lawrence, Erie, Pennsylvania, July 27 and 28, 1922. W. F. Angermeyer, secretary, 714 Homewood Avenue, Pittsburgh, Pennsylvania.

Retail Hardware Doings

Illinois.

Mr. Wilbur of Cairo has retired from the hardware business.

The Patoka Hardware Company of Patoka have started men to work on a new up-to-date store front.

C. C. Payne of St. Petersburg, Florida, has purchased an interest in the English-Slaten Hardware Company in Jerseyville.

Iowa.

G. E. Childs has purchased the Authier hardware stock at Westfield.

W. F. Greenfield has sold his hardware business at Hubbard to Henry F. Bocke and Fred Waterman.

Michigan.

Alex Nulan has opened a new hardware store on Washington Street, Ypsilanti.

Minnesota.

The Wohler Hardware Company, 3005 Hennepin Avenue, Minneapolis, has been damaged by fire. The loss is estimated at \$5,000.

Ohio.

The Bell-Platt Hardware store in Roscoe has been sold to Floyd Johnson of Tyrone.

Thibaut and Mautz have opened an up-to-date hardware store at 147 South Main Street, Marion.

Mississippi.

A new hardware store, under the name of Ben Livingston Hardware Company, has been opened at Drew.

Study and Interpretation of Advertisements.

You Can Make Your Advertisements More Gainful by Avoiding the Faults and Profiting by the Good Qualities of Others.

Unless the householder uses screen cloth of so fine a mesh that he lessens the amount of light ad-

Besides the mosquitos, flies and other pests get inside the house when the screen doors are opened for the brief time to make entry.

So, a hardware dealer who sells screens for windows and doors needs something else in order to give full service to his customers.

There is the logic of service, therefore, in the advertisement of the Walton Hardware Company, reproduced herewith from the *St. Petersburg Independent*, St. Petersburg, Florida.

Certainly, the good will of customers is enhanced when the dealer offers them at reasonable prices a good disinfectant which will bring the protective service of window screens and doors close up to 100 per cent.

This advertisement is written with sincerity and carries conviction to the average reader.

It starts out with a direct appeal, using the "you" instead of the "we."

It is known that phenol, chloramide, and other similar antiseptics are very effective in proper dilution against insect pests.

Therefore, the Walton Hardware Company, runs no risk of disappointing its customers in an advertisement of this kind.

By selling such materials to its customers, it broadens the scope of its service to them and, thereby, strengthens the hold upon their good favor.

* * *

Ordinarily, the hardware dealer does not include lighting fixtures in his classification of builders' hardware.

But he ought to do so as a matter of trade extension.

There is a natural connection between builders' hardware and lighting fixtures, and they ought to be given prominence in selling of builders' hardware.

Lighting fixtures may advan-

tageously be merchandised on their own merits as is shown in the advertisement of Hocker's Hardware Store, reproduced herewith from the *Terre Haute Post*, Terre Haute, Indiana.

This is a well composed advertisement, and the price quotations in bold figures deepen the favorable impression which it is sure to produce upon prospective customers.

In view of the educational work

You Needn't Be Bothered with Insect Pests

There is one most effective way to rid your home, office or shop of all kinds of insects, mosquitoes, vermin, rats, mice, bugs, roaches.

Use Fenole

The Most Effective Disinfectant

We have it in all sizes at the following prices:

Pint	65c
Quart	\$1.00
Half gallon	\$1.75
Gallon	\$3.00

We also have Fenole Spray Guns

Walden Hardware Company

Phone 23
"We Deliver the Goods"
337 Central.

mitted through the window space, he can not keep out all the mosquitoes from his house.



LIGHTING FIXTURES LET US FIGURE WITH YOU

Some of Our Prices:

Brushed Statuary light fixture	Brass, Flemish and Bronz finishes. One	\$1.19
Two light fixture		\$3.98
Three light fixture		\$4.98
Four light fixtures,		
.....	\$9.98, \$10.98 and \$11.98	
Candle wall fixtures in any finish	\$4.00 to \$6.00	
Inverted domes	\$6.00	
Porch lights	\$1.00 to \$2.25	

HOCKER'S HARDWARE STORE

1245 LAFAYETTE AVE.

started by the Copper and Brass Research Association, suggestion is hereby made to the Hocker's Hardware Store that in subsequent advertisement of lighting fixtures, solid brass products be given as much prominence as that bestowed upon the lighting fixtures which are only brush brass or bronze finish.

By Using His Brains, the Man Who Burns Coal in His Furnace Can Save Almost Half of His Heating Costs.

Even a Poor Grade of Soft Coal Can Be Burned Practically Without Smoke or Smell in Any Type of Warm Air Heater Manufactured Today.

Written especially for AMERICAN ARTISAN AND HARDWARE RECORD by James S. Stevens, Sales Manager, Pennsylvania Coal and Coke Corporation, Boston, Massachusetts.

MAN is a funny animal. Habit is so strong that every day he devotes much time to pursuits so habitual he hardly thinks about them. It is easy to prove that values wasted in everyday tasks is in total prodigious. But man gives least thought of all to the gigantic streams of daily necessities, which flow from producer to consumer, are used up, and forgotten.

Take coal, for instance, one of the four most important daily neces-

sities: Commission on Necessities of Life says is the luxury basis.

If you look the situation over, you find a great difference in the coal habits of the eastern and western householders. Such difference as makes one remember that much of the west was settled by Yankees, and they have not forgotten how. But to proceed:

In the west much bituminous coal is mined, and no anthracite. Anthracite is dear and bituminous

cheaply than in the east.

Government reports for 1917 show 57,000,000 tons soft coal domestic consumption, and only 49,000,000 tons anthracite. The Yankees of the west arrived a little earlier in that race, than the Yankees of the east.

And yet the eastern conundrum is easier. Semi-bituminous coals of Pennsylvania contain gas, called "volatile matter," from 18 to 23 per cent, as against 8 per cent for anthracite, and 25 to 40 for western coals. They have fixed carbon (the live coals of the fire, after the gas burns off) 65 to 75 per cent, as against anthracite about 80 and western coals about 45. They have ash 6 to 10 per cent, as against 6 to 20 for anthracite, and 6 to 20 for western coals.

The eastern man hates to shovel ash, but if he would burn semi-bituminous, he would cut his ash about in half, and have it less dusty at that.

Anthracite lies deep in the ground. Soft coal lies near the surface. About twelve years ago the average depth at which anthracite was mined, was five hundred feet. Of course, lots of water comes into these deep holes. It averaged ten tons of water for every ton of coal.

Ten tons of water and one ton of coal mean a lift of a mile for each ton produced. No man thinking of that lift, will ever throw a piece of coal at a cat, again.

In twelve years that average depth became greater, that water drainage grew, and the perpendicular lift is now probably nearer a mile-and-a-half per ton. At any rate, the government reports state in 1917 it took over one-tenth of the anthracite produced, to lift that



sities: Who realizes that it forms over a third in weight of all the freight handled by our railroads, and in the east over forty per cent?

In one year this country produces over five hundred million tons of soft coal and ninety millions of anthracite. No other product approaches in quantity its 1,750,000 tons a day, or twenty tons a second. Mr. Man-in-the-Street thinks little about it, and cares less.

"Ah, yes, but coal recently touched the pocket nerve, as never before." It is true that anthracite is selling in New England around fifteen dollars per short ton, which the chairman of the Massachusetts

cheap, but their bituminous coal is relatively poor in quality. Rich is it in moisture (some running over ten per cent) which water the fire must dry. It was necessary to learn how to burn it. They learned.

The Iowa State College started at work. They weighed and measured and thermomtered it, but they found how to get the heat out of it.

Then the University of Illinois got out a lot of information, and other colleges contributed. Furnace builders spent good money to have investigations carried on.

They found how to burn western coals, and solved their question, and are heating their houses more

coal, pump that water, and run the necessary machinery.

The longer they mine, the deeper they go; the deeper they go, the more they pump; the more they pump, the more it costs. It would seem the chairman spoke sooth when he said anthracite was a luxury.

Any reduction in wages from the present wage contest will hardly equal a dollar a ton. Any reduction of freight will hardly equal a half-dollar, for some time to come.



The prospect for large reductions in cost is not hectic.

Can eastern people find a good and sufficient relief from this high cost of house heating? Is there a proper substitute?

Anthracite coal is the coal farthest east. It is a small territory, near Scranton, in Pennsylvania, and such anthracite as has been found elsewhere offers no relief.

But near it are found the great soft coal measures of the Appalachian plateau, or Allegheny mountains. Here the coal beds are of great breadth, and extend south almost to the Gulf of Mexico.

Probably three-fourths of our steam power is made with coal from these beds. And here are found the semi-bituminous coals spoken of, the richest and best coals in the country.

These coals lie mostly above water level, and take less than two-and-a-half per cent of the coal to empower the mines.

The man who shovels coal to his furnace six months of the year, has not figured that he could get ten or fifteen per cent more heat in his coal, and save from a third to a half of his heating cost, by using his brains, but such is the case.

Twelve years ago, the substitution of soft coal for anthracite, because of economy, became conclu-

soft coal for anthracite.

The Commissioner figured it would save Massachusetts people forty million dollars a year. His enthusiasm on coal is awakening public interest.

That 57,000,000 tons of domestic soft coal is a big argument. It is a lot of coal, and it means about six million furnaces and stoves. What a lot of furnaces! All burning soft coal! Are they different, and if so, how?

Would Pennsylvania, New York, and New Jersey, which use half the domestic anthracite, New England using one-sixth, and the six Great Lake States using one-seventh, be interested to see them, if they had the chance? Obviously, the men who built those furnaces know all about them.

"I want to know," said a pocket nerve, and its owner wrote letters to every furnace maker in the United States whose name could be learned, and asked leading questions.

It is wonderful what happens when you look a big industry in the eye, and ask for information, particularly if there is a moral force behind the question. Any one who thinks he can do that will have a lively time.

From many states a shower of letters descended. Catalogues, plans, and information, as from a rapid-fire gun; three months it has been going, and the end is not yet. If all the answers were mailed at once, only a tombstone and willow-tree would remain for him who wooed the avalanche!

As fast as he could digest material, he prepared abstracts and classifications, sending inquiries for further information. There were times when a swarm of bees would be mild entertainment!

What came of it? This:

A great industry, established with all the variations of local conditions, materials, plans and product. He found that these coals, and even poor coals, can be burned on practically any type furnace.

With care they can be burned practically without smoke, and the

sive in power houses and steam plants. Since then, it has won its way in office buildings, theaters, hotels, public buildings, schools and colleges and large structures, it is said, about 80 per cent. It came gradually; but it came.

It does not require a prophet to see that if eastern people ever figure out the possible saving in furnace coal, they will want it. If they want it, they will get it. The only thing that can stop them will be their unwillingness to learn. And they once learned to balance themselves on two wheels!

Recently thoughtful men in the east sharpened their pencils and began to figure. The result was a bill introduced, in the Massachusetts legislature for research and report by the Massachusetts Institute of Technology on the substitution of

extra care required is according to one's furnace and brains.

It is solely a question of burning; there is no more smoke with one than the other, if properly burned, and furnaces are made to do the trick practically automatically.

Here and there was found one who had solved the question for himself.

He did it in his own cellar first. He reduced the ash one-half. He weighed the rock and slate from his own anthracite, and the result made him zealous for a substitute. His semi-bituminous cost one-third less, and he cut his heating cost about in half. He did not have smoke nor smell, although his old furnace had been abused for twenty years.

Then he tried it in a church. The chairman said if he had his way he would buy nothing else.

In a public building the superintendent stated he had half the ash, lower cost, plenty of heat, and kept the smoke laws.

The furnace people of the east sell in the west, and western furnace men sell also in the east, and in the west 90 per cent of the people burn soft coal. Do you get that?

Another thing, Mr. Householder: In the long spring and fall, you must carry a fire all the time, although little heat is needed, in the morning. It takes about half the usual anthracite to carry that fire. With semi-bituminous, he fired two shovels a day, closed the furnace and went away. He had heat as required. The fire lasted until noon. Next morning there was coke in the furnace to help the next fire. Christmas money, there.

The big difficulty is that eastern people assume because they never did it, it can not be done.

It is unlikely anthracite will ever sell at the mine for less than double the cost of soft coal. Anthracite is a great blessing. Semi-bituminous is another, which retails east for one-third to forty per cent cheaper. It is worth looking into.

Somebody suggested that if every one burned semi-bituminous the

cost would go up. The answer is if everybody did, it would not increase the soft coal consumption ten per cent, and soft coal consumption can be expanded a third, without digging another hole.

Somebody says, if all this is true, why do not people find it out? Ask the man who did not invent the aeroplane!

If semi-bituminous were burned wisely—and western people use poorer coals—the cost of domestic heating could be cut almost in half.

This makes the old furnace earn its cost in three or four years.

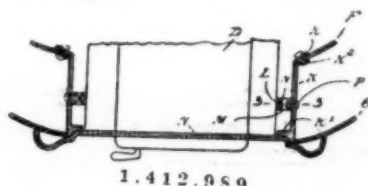
Supposing, that all the folks who burn domestic anthracite substituted an equal tonnage of semi-bituminous; multiply that forty-nine million tons by three dollars and a half a ton, which is the minimum difference in cost at the mines. Answer, one hundred and seventy million dollars a year, and more!

How much of that saving will they dig?

Warm Air Heater Is Patented.

Under number 1,412,989, United States patent rights have been granted to Harry L. Wood, Dowagiac, Michigan, assignor to Premier Warm Air Heater Company, Dowagiac, Michigan, a Corporation of Michigan, for the furnace here-with illustrated:

In a furnace, a heater having projecting portions, forming pass-



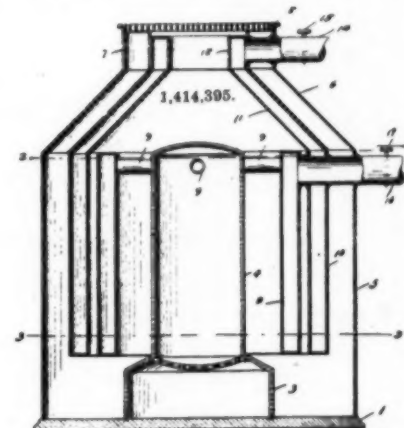
ages respectively in communication with the combustion chamber and ash-pit of the heater, inner and outer spaced casings about said heater, the outer casing having a gap therein, a terminal plate for said projecting portions having door openings in registration with said passages, and closing said gap in the outer casing, and a pair of pivotally mounted plates formed separately from said casings and

terminal plate and bearing against the lateral margins of said terminal plate and the vertical edges of the gap in the outer casing and vertical edges of the gap in the inner casing.

Warm Air Furnace Is Patented.

Charles A. Beggs, Rice Lake, Wisconsin, has secured United States patent rights under Number 1,414,395 for a warm air furnace shown herewith:

A warm air furnace comprising a body including a fire pot and com-



bustion chamber, a hollow casing surrounding said body, short pipes radiating from the upper portion of the body and connecting the same with the upper portion of the hollow casing, a second hollow casing surrounding the primary hollow casing, short radiating pipes connecting the lower portions of the primary and secondary hollow casings, a smoke pipe connected with the upper portion of the primary casing and provided in its length with a close fitting damper and a second smoke pipe connected with the upper portion of the second hollow casing and having a damper in its length.

Good things may be cheap, but cheap things are seldom good.

* * *

Somewhere in your business, there is a "difference," an idea that can be developed into a story so big, so vital, and so compelling to your public as to isolate your store from its competitors, and make your public think of it as distinctly a different kind of store.

Practical Helps and Patterns for the Tinsmith.

Aids to the Improvement of Craftsmanship and Business.
News from Various Branches of the Sheet Metal Trade.

PATTERN FOR SHEET METAL ROW BOAT.

[NOTE.—Following the suggestion made by Harry Frye of Tennessee on page 25 of the June 10, 1922, issue of AMERICAN ARTISAN AND HARDWARE RECORD, this pattern for sheet metal boat by O. W. Kothe is republished.]

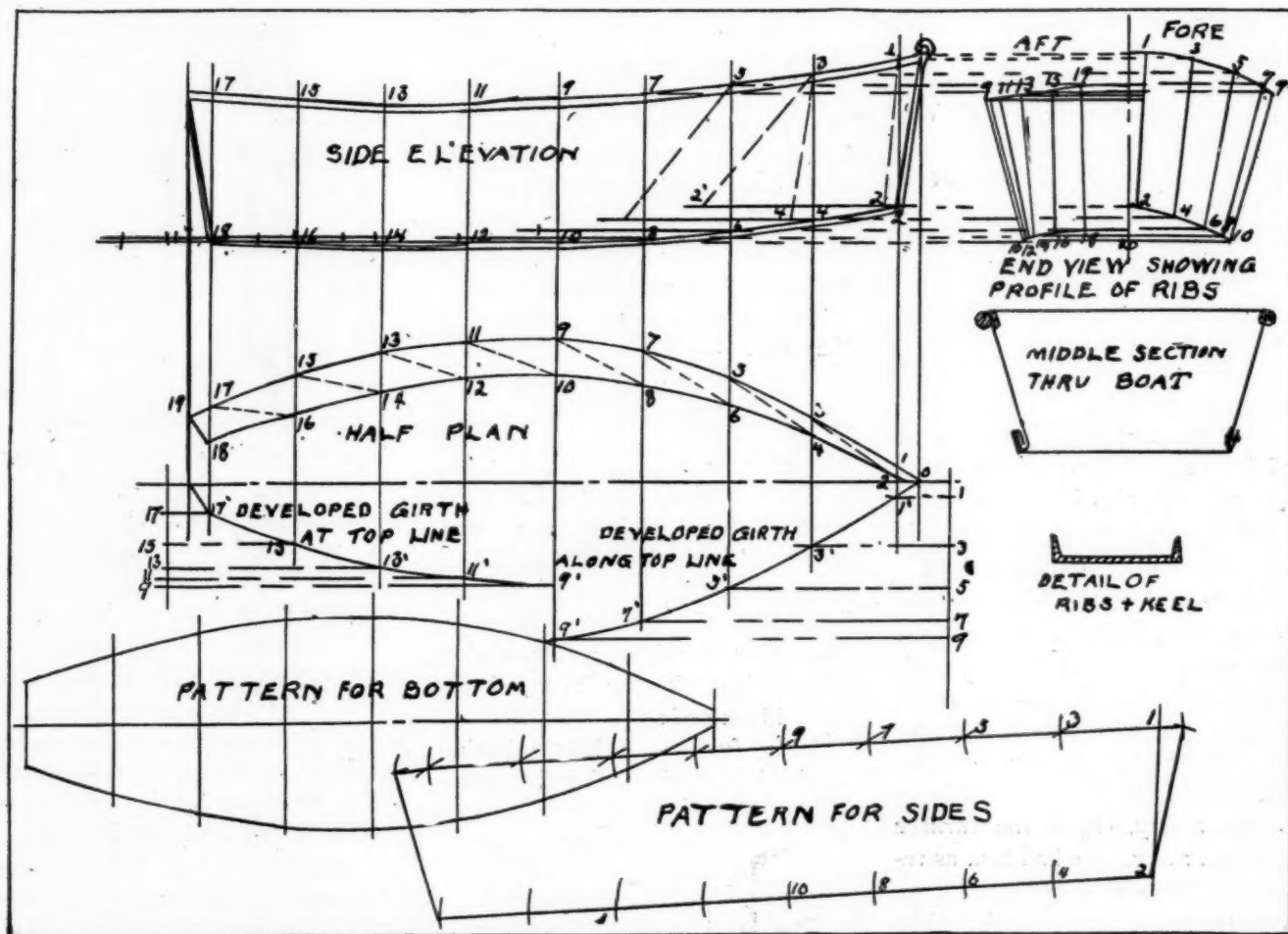
First draw the side elevation giving the desired curvature of top and bottom.

This is sketched in at pleasure or what has been found good practice by other boats. Next divide the length in equal spaces at 2-18. Drop lines indefinitely as shown. Next draw a center line for half plan.

the lines of side elevation.

To do this, draw a vertical center line, and from each point as 1-3-4-7-9, etc., in top rail, and also 2-4-6-8, etc., on bottom, project over lines into end view.

With dividers pick the half breadth spaces from half plan and set over on center line.



Pattern for Sheet Metal Rowboat.

Mr. Frye suggested that this being the boat making season, drawings and instructions for making good steel boats would be appreciated by the trade.]

In this drawing we take on another design of boat. It is a more common and simple way to make than the more curved types.

We here merely show the shell development, the workman can set the trimmings as he chooses.

Measure the half breadth of top rail, and also the bottom. Then trace the plan line for bottom as shown.

All of this is mere guess work. Experience soon dictates the exact lines they ought to take.

But this gives us the outline of sides and also the flare the sides will have.

We next develop the end view to get exact lines as profiles through

This gives points 1-3-5-7-9, also 9-11-13-15-17, also 2-4-6-8-10, and 10-12-14-16-18. This enables drawing the slant lines in end view and represent the profiles to bend the channel bar ribs too.

To set out the pattern for bottom, pick the curved girth from side elevation and set off on straight line.

Draw stretchout lines and then pick the half breadths from plan and set them off on each side of

center line of pattern. This gives the points for tracing the outline of bottom.

Observe how this takes in the length of bottom, and the outline in pattern for bottom will serve as girth for the lower edge in pattern for sides.

Before going farther, we must determine the developed girth along the top rail.

With dividers pick the curved spaces as 1-3-5-7-9 from fore end of end view, and set them on a vertical line below half plan as 1-9.

Then project horizontal lines to

intersect vertical lines of similar number as in points 1'-3'-5'-7'-9'. This is the true girth along gunwale of elevation.

In the same way pick the spaces as 9-11-13-15-17 from end view, and set as 17-9 from center line of plan.

Project horizontal lines, and you establish points 17'-15'-13'-11'-9'; which is the girth on the aft end of gunwale edge of elevation.

True lengths are next developed by picking the dotted lines from plan as 2-3; 4-5; 6-7, etc., and setting them over on the base lines

squared out from points 2-4-6, etc., of elevation.

This is in accordance with all triangulation work.

All solid lines, as 1-2; 3-4; 5-6 etc., are taken direct from end view as these are true lengths.

So start the pattern for sides the same as all triangulation fittings, and continue with the development until finished.

The sides can be riveted or seamed as in middle section through boat. The keel is a piece of channel bar riveted along the bow and stern and bottom.

Eleventh Annual Meeting of the Metal Branch National Hardware Association Sees the Return of Prosperity.

Analysis of Business Conditions Shows Many Favorable Factors at Work Increasing Volume of Production, Distribution, and Sales.

THE eleventh annual meeting of the Metal Branch of the National Hardware Association was held in Hotel Statler, Cleveland, Ohio, Friday and Saturday, June 9th and 10th, with a good attendance of members and many representatives from the mills.

Chairman W. H. Donlevy called the assembly to order and spoke tersely as follows:

Opening Remarks of Chairman Donlevy.

So eminent an authority as President Harding recently stated: "Our country is on the eve of a new era of prosperity."

There are many evidences to support that statement: Low rates for money, advance in prices of agricultural products, and prospective bumper crops, which will increase the buying powers of the farmers, large expansion of building construction, increased buying by railroads, decreased unemployment, with a present shortage of common labor.

These are some of the phases that have strengthened general confidence which was so necessary.

While we are far from normal, yet the favorable factors outweigh the disturbing influences, which we hope will gradually be adjusted or eliminated.

As business men, we are interested in everything pertaining to the general welfare, but we are especially interested in the production and distribution of metal products.

The recent increase in the output of iron and steel, the upturn in prices, warrant the hope of a continued improvement.

As metal distributors, we have many problems. Some can be solved only by the aid and cooperation of the manufacturers, while the solution of others depends entirely upon our own efforts.

There seems to be a wave of underselling or price-cutting extending over the entire country, which is destructive and disastrous. How to correct this evil is one of the problems that should have our consideration at this meeting.

President A. H. Decatur was introduced after the brief opening remarks of Chairman W. H. Donlevy and stated that in the coming six months of 1922 we would see business mount to a total which in 1914 would have been thought extraordinarily large, and that he looked for even greater prosperity during 1923.

The Metal Branch, by the way, is singularly fortunate in the fact that this important department of the National Hardware Association has for several years had for its chairman a man who can afford and is willing to give to it the great amount of time and personal attention that Mr. Donlevy is devoting and has devoted to the work. The high appreciation by the members of his efficiency was expressed at the close of the meeting when on motion of Milton E. Lissberger, New York City, the recommendation was made that Mr. Donlevy

be again appointed chairman after the annual meeting of the National Hardware Association in October.

Among the many interesting discussions held at the three sessions were the following:

"The Marketing of Steel Products on a Basis That Will Allow a Reasonable Profit to Jobbers and Manufacturer." Led by William E. Manning of Youngstown Sheet & Tube Company.

"The Cost of Making Small Mill Shipments Direct to Jobbers' Customers." Led by M. C. Summers of Superior Sheet Steel Company.

"Proper Distribution of Sheet Metal Products." Led by A. W. Howe of J. M. & L. A. Osborn Company.

"The Advisability of a Minimum Spread on Less Than Carload Shipments from the Mill." Led by F. O. Schoedinger of F. O. Schoedinger Company.

"Are Business Conditions Better Than Is Generally Believed?" Led by Frank H. Colladay of Trumbull Steel Company.

Extracts from Mr. Colladay's address are herewith reproduced with the suggestion that they will serve as a tonic to those who need encouragement.

Paragraphs From Address by Frank F. Colladay of Trumbull Steel Company.

The general liquidation of stocks in all lines that has been going on for many months, coupled with a readjustment of values in various lines, makes it appear that we are establishing such a sound foundation as will enable us to reach a wholesome period of prosperity that will be lasting.

Increase of Buying Power.

Buying power is helped by increased improvement on farms, in factories and building industry. Labor idleness is changed to shortage in many centers and some wages have been advanced, with a general inclination in this direction. The cost of living is now 54.8 per cent above 1914, comparing with 104 per cent above in 1920.

An Era of Rising Prices.

The best opinion obtainable is that we are in the middle of an era of rising prices for commodity as well as corporate equities and that this zone of improvement will continue for at least a year or possibly two years.

Forty-One Per Cent Increase In Building.

The month of March in building construction shows an amount greater than any month on record. The cumulative total of building contracts averaged for the years of 1919 to 1921 is being exceeded so far this year by 41 per cent.

Reports show that New York and New England districts are falling off slightly but other districts are increasing. Unless this building revival which is becoming general proceeds too rapidly and causes some reaction, which seems unlikely, this year will be a record year for building construction. Even industrial construction shows indications of assuming normal activity toward the end of the year.

Leonard P. Ayres, vice-president of the Cleveland Trust Company, has recently made a careful analysis of the building situation based on building permit figures for 50 cities for the last twenty-two years. Working this out and converting the value to the 1913 price base, data has been computed to show year by year the amount of building construction per capita of population. This shows an average shortage of 2.4 years of normal building constructions. In other words, it would seem necessary for construction to go forward at the rate of 25 per cent above normal for ten years in order to fill this vacuum.

Greater Volume of Production.

Production has been below normal on account of the heavy stocks carried over from 1921. These stocks are now being liquidated in such a manner as will bring about a much more healthy condition to the industry.

The low point in the production of pig iron was July, 1921. Since that time, the increase in monthly production has been 138 per cent, and is 80 per cent of the high record production in 1917.

The output of steel ingots has increased even more rapidly than that of pig iron. The April output of this year was three times that of July last year.

Better Conditions In Copper.

Copper conditions are better than they have been any time the past year. Domestic and export demands are increasing in a very encouraging manner, surplus stocks are being rapidly reduced

and are reaching a point where they are not burdensome. The demand is well distributed from both foreign and domestic consumers.

In making comparisons with other commodities it is interesting to note that all commodity prices stopped falling last summer. Since then, they have become substantial and recently raw materials, including cotton, wool, hides, iron and steel, building materials and brick have been advancing, forecasting generally higher prices for the rest of the year.

Keep Pace With Progress.

There is one point that demands careful consideration by all of us and that is the vital necessity of realizing the fundamental changes that are taking place so rapidly and naturally that we are almost unconscious of them. This is especially applicable to men of considerable length of experience who are

logical distributing agency did not have the material in stock when it was called for.

It is interesting to note in this connection that the Glidden Company, with its fourteen branches is now handling Anaconda Copper products.

Milton E. Lissberger, President of Marks Lissberger & Son, spoke at length on "Trade Brands and Practices," taking as his text the recent Supreme Court decision against a hosiery company which used the word "wool" on labels, although its



W. H. Donlevy, Chairman Metal Branch.

apt to be controlled by their established habit of thought. Rapid and revolutionary changes in science and industry demand adaptability from us, otherwise, we are not competent to deal with present-day conditions successfully.

H. S. Darby, of J. M. Warren & Company, led the discussion on "Is There a Tendency Toward the Allowance of the Cash Discount for Settlement on the Tenth Proximo?"

Thomas D'Arc Brophy, of the Anaconda Copper Mining Company, spoke very convincingly on the necessity for stocking up on copper in view of the heavy advertising campaign which is now being carried on by the Copper and Brass Research Association as well as by individual manufacturers, calling attention to the fact that many instances had been found where the

product was not "all wool." Mr. Lissberger pointed out that similar abuses were found in the metal trade, such with solder, so-called bronze and copper items, tin plate, etc. He stated that from now on it was up to the retailer and the jobber as well as to the manufacturer to see that the article which he sold or made was branded in accordance with facts instead of as at present, when, for instance, "half and half" as applied to solder might mean anything from a fifty-fifty proportion to one of sixty to one hundred.

The speaker emphasized that only by adhering strictly to the principle expressed in the decision by the United States Supreme Court could the merchants and the manu-

facturers avoid laying themselves liability to prosecution.

John A. Penton, publisher of *Iron Trade Review*, gave an excellent and convincing talk on "The Iron and Steel Situation," pointing out the fact that right now there is more steel made and put to use than in 1917, and advised jobbers and contractors to place good-sized orders for delivery during the balance of 1922 and as far into 1923 as the mills will allow. He looks for higher prices for material and for higher costs because of higher wages to steel mill labor.

L. D. Mercer, of United Alloy Steel Corporation, spoke of the movement which has been dormant for the past two years—with regard to an advertising campaign on sheet metal—and stated that he hoped that such a campaign would become a reality in the near future.

G. F. Ahlbrandt, of the American Rolling Mill Company, makers of Armco ingot iron, read a very interesting paper on "Constructive Salesmanship as an Efficient Means of Meeting Competition."

Extracts from Address by G. F. Ahlbrandt of The American Rolling Mill Company.

To my mind there is nothing more important than constructive salesmanship. I prefer to classify under salesmanship not only the marketing of a product but also the creation of that product; in fact, everything that helps to make that product available, serviceable and attractive to the ultimate consumer. Unless we do conceive of salesmanship in its broadest sense, we shall not accomplish the most out of our undertakings, whatever those undertakings may be.

Salesmanship Covers Every Phase of Business.

Is not the man in your shop who makes your product as largely responsible for the success of your company as the salesman on the road selling the finished product? Is not your credit man in his capacity as largely responsible for your success as the salesman in the field? Is not your service man, who brings the customer's problems to you so that you may know how to improve your service, as largely responsible for your ultimate success as the salesman marketing that product? Yes, even the office boy in your institution plays his part in the success or failure of your business. We are all too prone to look on salesmanship from the marketing standpoint only, when really it should cover every phase of the business structure.

Secure Satisfied Customers.

The true objective of all commercial enterprise is to secure permanent satisfied customers. We all know how ex-

pensive it is to gain new customers and open new accounts. It is the repeat orders, not the initial orders which return profits.

Each Job Is Important.

You will find it difficult to gain and retain satisfied customers unless you first instill throughout your organization this consciousness of and determination for true salesmanship. The last man down the line must appreciate the importance of his job and must be encouraged to put forth his very best efforts in all that he does.

Study Customer's Needs.

Salesmanship involves an intensive study of the customer's needs. The salesman's responsibility does not end with the delivery of the goods purchased; but his interest and support should continue right through to the time of their delivery to the consumer. The successful salesman appreciates that it never pays to sell a customer a quantity or quality of goods unsuited to his needs. In fact, such action often may result disastrously.

Advertising Is a Potent Sales Aid.

Advertising offers one of the most potent sales aids. I understand that we are shortly to enjoy a discussion on this theme; and I certainly do not propose to encroach upon the next speaker's subject. However, there are several impressions growing out of the long experience of our company in this field which are especially apropos to the present discussion.

Gaining Cooperation of Employees.

It was in 1914 that American Rolling Mill Company initiated its national publicity program as the pioneer raw product advertiser. The first step was to sell the idea to our employees and impress upon them the absolute necessity for quality and service commensurate with that which we proposed to offer to the public. I can truly tell you that a salutary effect was apparent throughout the organization and was reflected in product inspection reports from that time on. Our experience offered ample justification not only to pursue this advertising continuously from that date but also to increase its scope.

Competition Necessitates Efficient Methods.

If you will pardon a personal reference, my early experience was gained in the production department; and that experience is probably responsible for some of my ideas along this line. I believe that in many cases we should apply the same principles and methods to our sales problems that have been found efficient from an operating standpoint. Before entering a new field we should have a careful survey made, preferably by engineers not salesmen. We should apply the method of "time study" to our sales and advertising activities. Competition necessitates that we practice efficient methods and discard those that are wasteful and ineffective.

What a Sales Letter Costs.

As an illustration, how many of us know what it costs to write a sales letter? Mr. Floyd W. Parsons, in his article in the Saturday Evening Post of June 3, on the subject of "High Cost of Letter Writing," estimates the cost from 18 cents to 40 cents a letter, 18 cents being the minimum for a letter transcribed from a dictaphone and 40 cents being the maximum for a personally dic-

tated letter. Most of us think of the cost of a letter from the postage standpoint only, feeling that it is necessary anyway to have the letter writing equipment, personnel, etc., as a part of our regular organization. When we do get a proper appreciation of the cost of each individual letter, we shall be more careful of its form, wording and effectiveness.

Direct Mail Advertising.

There is much that can be accomplished through the assistance of direct mail advertising and cooperation with dealers. You will always find it profitable to aid your dealers in circularizing their mailing lists and in cooperative advertising. Time spent in working with the dealer's salesmen is also fruitful.

Handling Claims and Complaints.

All of you are familiar with the advantage gained through an active service and trouble department; and you are alive to the need of very prompt and careful handling of claims and complaints. It is my belief that the salesman, who sold the material should in so far as possible individually handle any complaints in connection with that material. It stands to reason that he should be more familiar with the transaction than any other connected with his firm.

Interwoven with all of these features is the need for virile, potent sales letters.

Employs a Correspondence Adviser.

About two and a half years ago, I made a recommendation to our management that we employ a correspondence adviser whose sole duty it should be to supervise all American Rolling Mill Company letters.

This not only embraced letters emanating from our sales department but from every department in our company; namely, letters from our purchasing, accounting, traffic, order, operating and even our executive offices. The idea contemplated that every letter should be a sales letter, truly representative of the ideals for which our company stands. We wanted each outgoing letter to be a typical American Rolling Mill Company letter.

Group meetings are held at intervals at which the fundamentals of letter writing and business English are discussed. At the outset, 60 per cent of the organization voluntarily took advantage of this work. By the end of the first year, the response was practically 100 per cent. The results have been interesting and highly gratifying.

Better Letter Bulletins.

Another feature of the work embraces our weekly "Better Letter Bulletins." These are limited to a single page and serve to keep the highest ideals constantly before our correspondents and typists.

A neat 79 page booklet on "The Mechanics of Correspondence" records and visualizes all the important features of mechanical make up and appearance. A further 60-page booklet is now being printed, which will thoroughly cover the principles of good business letters.

As a result of this work, I am satisfied that the standard of American Rolling Mill Company letters has been definitely improved. We are pleased to believe that they are establishing a spirit of good will of intrinsic value. I am sure that you will all find it profitable to give careful attention to this subject.

Wise Sales Policies.

Ultimate success, of course, is the result of the proper correlation of these various individual factors, along with all of the other necessary factors which time will not permit us here to outline. But all of these must be built upon a deeply grounded foundation of wise, constructive far-seeing sales policies.

Constructive salesmanship takes into account every single link in the chain of marketing, and it insists that every link be made to pull its maximum share of the load. When that is accomplished, and not until then, will constructive selling be 100 per cent efficient in meeting competition.

Owing to the unavoidable absence of W. W. Justice, Jr., of N. & G. Taylor Company, his paper on "How and Why We Think the Terne Plate Business Should Show Increasing Volumes," was read by their Cleveland representative.

Extracts from this very able paper are given here:

Passages from Address by William W. Justice of N. & G. Taylor Company.

I feel that I can bring quite a note of cheer and optimism to our friends in the manufacture and distribution of terne plate and particularly should we feel encouraged after having passed through probably one of the most trying and difficult periods in the history of the industry.

Increasing Volume of Business.

There are certain reasons as to "How and Why We Think the Terne Plate Business Should Show Increasing Volume." We are encouraged to look for this increasing volume because we are already feeling such a decided increase in volume.

Demand for Better Roofing Material.

We would also submit this thought to you: We appear to have gone through a period of cheaper roofings; I would speak particularly of the paper and built-up roofings, composition roofings and similar short lived cheaper coverings but the pendulum now seems to be swinging back toward material of greater durability. This is very gratifying. Again, the class of terne plate called for shows that we are headed in the right direction. The increasing use of the more heavily coated and more carefully made plates and the insistence on quality will certainly make for the permanent betterment of the business.

Tendency Toward Fewer Brands.

We might also note here that fewer brands are the order of the day and this leads us to the thought that the subjects outlined in your Convention Program point to the fact that a good deal of our salvation rests in our own hands.

Arguments in Favor of Terne Plate.

Let me give you a list of arguments which occur to me as the chief advantages in urging the use of terne plate for roofing, and from your experience, you will be able to cite many cases to illustrate this list of headings.

1. Durable.
2. A time-tried, long-established material.
3. Easily applied.

4. Adaptable to any surface.
5. Moderate first cost.
6. Low cost of maintenance.
7. Re-use, second-hand value.
8. Easily and quickly repaired, if damaged.
9. Neat, high-grade appearance.
10. Loses nothing in appearance with age.
11. Light in weight.
12. Not affected by heat and cold.
13. Gives protection against lightning.
14. Incombustible, and prevents spread of fire.
15. Weatherproof.

Protection Afforded by Sheet Metal Roofs.

I doubt very much whether sufficient concerted effort has been used to bring before this country the saving in dollars and cents that would result had a small percentage of the towns recently wiped out by big conflagrations had the protection of tin roofs.

Artistic Possibilities of Terne Roofing.

Have you developed the artistic possibilities of terne roofing? The writer is now living in an old-fashioned stone house covered with a standing seam roofing of a high-grade terne plate and painted what we speak of as copper verde color and the effect so obtained is certainly artistic and pleasing; in fact, the building has appealed, from its artistic point of view, so strongly that we have been asked to allow a reproduction of this house to be used to illustrate an article coming out in the near future in one of our best-known illustrated magazines; namely, "The House & Garden Magazine."

We can speak intimately only of our own immediate experiences of the sale of terne plates for roofing purposes but they are sufficiently increased as to make us reasonably confident that we can say to you that the situation is very encouraging.

A. H. Nichols, of Buhl Sons Company, led the discussion on "What Is the Minimum Cost of Handling Sheets and Tin Plate from Warehouse?"

C. H. Stewart, of American Zinc Products Company, spoke briefly on "The Best Method of Distributing Zinc Products, from the Manufacturer's Standpoint."

E. H. Wolff, President of Illinois Zinc Company, spoke in part as follows on "Zinc Roofing":

Synopsis of Address by E. H. Wolff of Illinois Zinc Company.

At the annual meeting held here last year I talked to you on the subject of zinc roofing and the activities of the American Zinc Institute towards educating the public in the use of zinc. While my subject today is Zinc and Zinc Roofing, I shall speak more directly upon the production and sales policy of the Illinois Zinc Company, whom I represent.

Realizing several years ago that increased use, or increased consumption of zinc would be necessary to maintain those engaged in its manufacture, the Illinois Zinc Company, after an exhaustive investigation abroad where zinc is the recognized roofing material, decided

to become engaged in the fabrication of zinc for roofing purposes.

Company Develops a Zinc Shingle.

They developed a zinc shingle, and installed the necessary machinery to corrugate zinc sheets in all of the standard gauges and sizes. Our success in marketing these products during the past year has been very gratifying, and although we have not done a great deal in advertising, the policy was adopted about one year ago first to bring these products to the attention of the architect, the builder and the metal worker through advertisement or otherwise, and then follow with general publicity.

Great Interest Shown by Builders.

Today we are presenting these products to the general public through advertisements. Thus far the greatest interest has been shown by the builders, and we have been convinced through this contact that the builders, as well as the owners or consumers, are seeking a more permanent roofing material. It is now generally known that corrugated zinc sheets are on the market, and our volume of business in this class of material during the past six months has exceeded our highest expectations.

Zinc Has High Salvage Values.

When the buyer realizes that a square of corrugated zinc of a suitable gauge can be purchased at around 7½ cents to 8 cents per pound delivered at the site, and that the salvage value of this material, if it should for any reason be removed, is 3 to 4 cents per pound, even a ten-year life for roof covering is a good investment.

Zinc shingles have taken such a firm hold upon the trade, and are undoubtedly looked upon with favor by other zinc producing companies because of the fact that there are now on the market 5 or 6 various types manufactured or produced by as many different companies. We call this to your attention because of an apparent lack of interest on the part of the distributors of metals.

Urges Consideration of Zinc for Roofing.

Perhaps because zinc comes in direct competition with other metal lines, but inasmuch as the metal houses have added lines from time to time, it would seem to their business interest more seriously to consider the future of zinc as a roofing material. A marketing policy has been established by our company which will insure a reasonable profit to the middleman, and we invite your investigation.

Improvement in Quality of Zinc Sheets.

We also call your attention to the improvement which has been made in the quality of zinc sheets during the past several years. Our company is now producing a special sheet which will more readily work up into gutters and downspouts. It can be formed with the grain about as readily as across the grain. This development has come from the need of the fabricators, or the metal worker who is being called upon to supply these parts in connection with zinc roofing.

Our company does not contemplate the fabrication of gutters, downspouts, elbows, etc., as that is more strictly the function of those engaged in the business, but we are in a position to supply metal of a suitable quality for such manufacture.

Policy of Illinois Zinc Company.

Your chairman, Mr. Donlevy, in extending to me the invitation to be with you at this meeting, referred to certain practices which had crept into the jobbing business of late, and assuming that the zinc business was included as one of those I shall briefly touch upon the policy of our company. No doubt most of your members are connected with firms who have at various times during the past 40 years purchased goods from the Illinois Zinc Company and know the policy of the company in its transactions with the jobbers as to discounts from prevailing list prices. While we have realized the carload discount on zinc sheets has not been for years equal to your cost of handling, it has been consistently maintained without fluctuation.

Logic of the Carload Discount.

The jobbing trade had confidence in the stability of this discount, and upon such basis could, and did, establish their margins for resale. During the past year or two there has been creeping into the jobbing of zinc sheets a practice, which, in my opinion, is detrimental to the business of the jobber. If all of the manufacturers of zinc sheets were to let down the bars—so to speak—sell the small lot buyer at the same discount off the list as the carlot buyer who stocks the material, he would soon find his business passing out to the manufacturer.

How can a manufacturer defend his position with the jobber when he quotes and sells the jobber's small lot customer in the same town, or perhaps across the street, upon the same full discount basis, or at the same price as he does the jobber? Our company has not thus far deviated from its well-established policy. It believes the policy to be fair and equitable to all concerned. The fact that it does believe its position is correct is evidenced by the strict adherence to this policy during the period of the past business stress and readjustment.

The following resolution was presented by a committee appointed by Chairman Donlevy:

"In view of the fact that the sheet manufacturers in this meeting feel that the annoyance and increased cost caused by less-than-carload shipments for jobbers accounts can best be removed by proper action by the manufacturers themselves, your committee suggests that the entire proposition be presented to the National Association of Sheet and Tin Plate Manufacturers, in the hope that appropriate action can be taken by the mills to correct a practice which is detrimental to jobber and manufacturer alike."

Cleveland was again recommended for the 1923 meeting and after a standing vote of thanks to Clifford E. Pierce, of Betz-Pierce Company, Chairman of the Cleveland Entertainment Committee, for the man-

ner in which all arrangements for the meeting had been carried out, the meeting adjourned.

Friday evening, the members and visitors were guests at a dinner and a theater party at Keith's, and on Saturday afternoon many of them enjoyed the Philadelphia-Cleveland ball game.

The meeting showed plainly that it is easy to iron out differences when you get face to face, and it was a pleasure to see how apparently big and unpleasant difficulties, under the careful guidance by Chairman Donlevy of the discussions, were solved in satisfactory manner.

Iowa Sheet Metal Men Send Out June Bulletin.

The June Bulletin of the Iowa Sheet Metal Contractors' Association contains many interesting items among which are the following:

"How about the picnic? Several members have written that they would attend but not enough to warrant making the arrangements. The dates of July 14th and 15th have been suggested. It is the plan to have some sports and outdoor stunts Saturday afternoon and a dinner at night, with dancing and other amusements afterward. Will you attend at Clear Lake on these dates? If a sufficient number respond, arrangements will be made at once.

"President Lichty, Mr. and Mrs. O. W. Ilten of Cedar Rapids and Secretary Pauley represented the state association at the National Convention at Indianapolis, May 15th to 19th. It was a great convention.

"The three most important things of the convention, in the opinion of the Secretary, were: First, the report of the Trade Development Committee; second, the work done by the Furnace Code Committee and the adoption of the new code by the National Association; and third, the almost continuous discussion of the apprenticeship questions.

"The shortage of first class mechanics is fast becoming a menace to the sheet metal industry. It

is up to us to get busy and educate our own mechanics in our shops. Every shop should employ as many apprentices as possible. Sign them up for a three or four-year period and then see that they are instructed as they should be.

"Davenport has formed a local association of which W. E. Born is President and Ed. Gertz is Secretary. They have been invited to join the state association and are considering the matter. We need Davenport and they need us. We hope they join.

"Wage scales reported as follows: Sioux City, 1921, 90 cents; 1922, 82½ cents. Des Moines, 1921, 93¾ cents; 1922, 90 cents.

"Sioux City also reports the passing by the City Council of a new furnace code. This code is practically the same as that recommended by the Code Committee and we congratulate Sioux City on being the first city to adopt it.

"President Anderson of the Auxiliary says the salesmen would like to have the bulletin, so we are mailing one to each of the Auxiliary. We invite the salesmen to make any suggestions for the good of the association and to send in any items of interest for our bulletin.

"One member asks the following: What should be the area of warm air piping required to heat a two-story house, 30 feet by 30 feet, with eight rooms, approximately the same size, with two windows to each room? You furnace men send in your answer."

Book Gives Thorough Information on Galvanizing and Tinning.

Accurate knowledge regarding the processes of coating metal with zinc and tin by hot dipping, electro-galvanizing, and metal spraying, are contained in the new edition of "Galvanizing and Tinning," by W. T. Flanders, which is now available to the trade.

This new edition is as comprehensive and reliable as Mr. Flanders' practical experience could make it. His experience covers twenty-five years as mechanic, builder and manager of plants.

Since the first edition of his book in 1916, many improvements have been made in the hot galvanizing and tinning processes. Several new methods of utilizing zinc and tin for protection against corrosion have also been devised and perfected.

The book covers such details as use of pyrometer, materials employed in galvanizing, replacing old galvanizing kettles, tinning malleable iron castings, retinning, coating gray iron castings with tin, cleaning old galvanized and tin work, electro-galvanizing, Sherardizing, coloring and finishing Sherardized articles, and the like.

Copies of "Galvanizing and Tinning" by W. T. Flanders, can be had postage prepaid for the moderate price of \$4.00 from the Book Department of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois.

Offers Prizes for Photos Showing Durability of Copper and Brass.

As a part of a nation-wide campaign designed to foster the use of more permanent materials in building, the Copper and Brass Research Association has announced a contest for school children and others, offering cash prizes for the best photographs showing the relative durability of materials which go into the construction of American homes.

Some idea of the cost to this country of the practice of building for speculative profit rather than for use is evidenced by the result of a statistical study just completed by the Copper and Brass Association.

The fire loss on the 21,000,000 American homes, insured as they are for a total of \$91,700,000,000, is about \$35,000,000 a year, based on figures for 1918 to 1920, inclusive.

The rust bill, covering the renewal of sheet metal work, principally leaders and gutters, plumbing pipe, hardware, etc., is annually twenty times that sum.

The efforts to show the public the wastefulness of the use of materials which need early and frequent replacement, is a part of the pres-

ent intensive campaign of the Copper and Brass companies of the country to increase the use of those metals in domestic consumption. The photographic contest is a part of that campaign.

Fourteen prizes ranging from \$150 to \$10 will be awarded for photographs of copper and brass objects of utility or ornamentation which to qualify must have been in use more than 35 years.

Included are copper roofs, brass door knockers, old copper cooking utensils, brass plumbing pipe.

Fourteen additional prizes of similar amounts are offered for the best photographs showing the results of using substitutes for copper and brass.

Book Clearly Teaches Sheet Metal Pattern Drafting.

Written so clearly and helpfully that it is a distinct help to everyone in the sheet metal trade from the apprentice to the expert craftsman, a new book has been published by James S. Daugherty of the College of Industries, Carnegie Institute of Technology, Pittsburgh, Pennsylvania.

It bears the title, "Sheet Metal Pattern Drafting and Shop Problems."

Usually, the beginner has difficulty in visualizing the kind of product which he is trying to make by following out the details of a drafted pattern.

Professor Daugherty in this new book gives photographic pictures of practically every pattern problem, so that the apprentice or beginner is able to get a realization of the final appearance of the thing which he is drafting.

This volume is presented not only for use as a textbook in trade schools and other institutions having courses in sheet metal pattern drafting and shop work, but also for home study for apprentices and sheet metal mechanics.

By all odds, it is one of the best textbooks written in recent years.

Copies of this admirable work, "Sheet Metal Pattern Drafting and

Shop Problems," by James S. Daugherty, can be had postpaid for the nominal sum of \$2.50 from the Book Department of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Boulevard, Chicago, Illinois.

Detroit Sheet Metal Local Starts Class for Apprentices.

The Detroit Sheet Metal and Roofing Contractors' Association has established a sheet metal class for apprentices at the Cass Technical High School that bids fair to become a permanent adjunct to this widely known trade school.

Boys that are seventeen years or older are furnished the School by the Secretary of the Association, who advertises for these boys and then places them in the shops of the members at 30 cents per hour.

The apprentice is also promised a bonus of 5 cents per hour on all the time he has worked if he has a satisfactory school record as regards attendance and work.

This is in the nature of a little reward and gives the student something to strive for and will have a tendency to keep him interested in sheet metal work.

The class was started June 1st with about seven pupils and now it numbers twenty and is steadily increasing.

A competent instructor, James Hendrickson, is in charge and the boys are to be taught a bench-work course.

This sort of instruction is very interesting to them as they are aware that it will increase their value to their employer by advancing them in the work so much more rapidly.

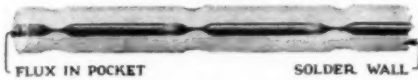
Kester Acid-Core Wire Solder Is Self-Fluxing.

Other things being equal, the easiest things to sell in a hardware store are those which are the easiest to use.

Nowadays, the householder has many demands for soldering, such as tinware, boilers, kettles, automotive repairing, electrical connec-

tions and so forth, and, if the repair is not too complicated, he does not hesitate to make it himself rather than to send it to the sheet metal shop for the work.

Especially for this class of trade, the hardware dealer will find it convenient to carry in stock Kester Acid-Core Wire Solder, manufactured by the Chicago Solder Company, 218 North Union Avenue, Chicago, Illinois.



Kester Acid-Core Wire Solder is self-fluxing. It has the necessary soldering flux right in it and is, therefore, ready to use, no separate soldering flux being needed. The solder is filled with a soldering flux in a series of cells or pockets. As the solder is melted off, just enough soldering flux flows out to insure a perfect bond.

This Kester Acid-Core Wire Solder is sold in one-pound coils in cartons, also on one, five, and ten pound spools, ready for immediate use. This eliminates the usual "good measure" loss as when sold by weight and saves the salesman's time.

One of the big advantages claimed for Kester Acid-Core Wire Solder is that it is impossible to use too little or too much flux, and there is no need for a separate flux as it is right with the solder. Thus a big saving of time, labor, and material is achieved.

Glidden Company Will Distribute Anaconda Copper Shingles.

The Glidden Company, Cleveland, Ohio, has just closed a contract with the Anaconda Copper Mining Company through one of its subsidiaries, whereby The Glidden Company and its affiliated companies will have the selling rights on Anaconda roofings throughout the United States.

The Anaconda Copper Mining Company recently invented a copper shingle that can be supplied in such colors as autumn red, russet brown, emerald green, peacock blue,

verdi green, blue green and olive green without the necessity of painting.

Anaconda also has invented and patented a ductile zinc shingle made along the same general lines for use on less expensive building operations.

These Anaconda products will soon be available through all the distributing units of The Glidden Company and its associated companies throughout the country.

The Glidden Company has arranged through the Anaconda Lead Products Company for the exclusive manufacturing rights to Anaconda Lead in Oil. This also is a new product made by the electrolytic process and is experiencing a large demand.

Issues Comprehensive Manual on Copper Roofing.

So great has been the demand for accurate information regarding the various phases of copper roofing, that the Copper and Brass Research Association, 25 Broadway, New York, has compiled an exhaustive treatise on the subject under the title of "Copper Roofing," which is now available for distribution to sheet metal contractors.

The manual contains a number of full page illustrations showing the copper roof applied to various types of buildings.

Sample specifications are included covering roofing, flashings, valleys, gutters, leaders, skylights, cornices, etc.

Every necessary detail for successful carrying on of the work is set forth in clear and helpful explanation.

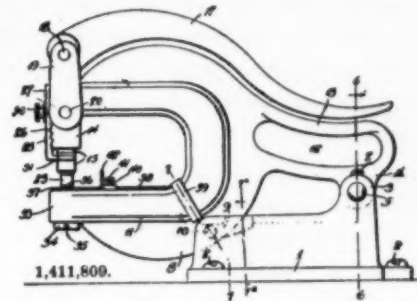
Copies of the new manual can be had without charge by any sheet metal contractor upon application to the Copper and Brass Research Association, 25 Broadway, New York.

United States Patent Rights Are Granted for Punch.

Heyman Rosenberg, New York, New York, has obtained United States patent rights under number

1,411,809 for the punch herewith illustrated:

In punching apparatus, the combination of a bed having a slot, a



punching machine having a projection adapted to move into and out of the slot and to rest against the end of the slot, a pin slidingly carried by the bed, and an apertured portion on the punching machine positioned for being swung toward and away from the pin for bringing the aperture thereof into and out of alinement with the pin, the swinging movement being described on a circle about the projection as a pivot.

Standard Price Is a Matter of Honest Trading.

Commenting upon an editorial which appeared in *Printers' Ink*, Chairman Charles E. Butler of the American Booksellers' Association, discusses price maintenance as follows:

This is a big economic question and has much to do with the prosperity of the people of the United States. It can not be called a problem. The whole matter is exceedingly simple and easily understood. The case may be stated as "Standardization of Price" vs. "The Fixed Price."

The aim and purpose of the "Standardization of Price" is the same price for the same article to all the public. "The Fixed Price" is an arbitrary cut price for a given article, sold only to a few of the public who buy of that particular price cutter.

The former is known as "Fair Trading for Buyer and Seller," the latter as "Predatory Price Cutting," an injury to the producer and ultimate wrong to the buyer.

The advocates of "The Standard-

ization of Price" are the many thousands of producers who by their inventive genius, hard work, years of toil and anxiety, great risk of money, have offered to the people of the whole country an article at fair and reasonable price that the public may care for—but do not have to buy.

The advocates of "The Fixed Price," more popularly known as "Price Cutters," take no risk whatever as producers, but for well-known reasons they lie in wait for the successful producer.

They cut the producer's price for one of their own making, for the benefit of a few of the public who trade with them, to the incalculable harm of the producer.

They defy anyone to sell at their price or below, with threat of a price war to restrain them.

In short, the disastrous economic results of this predatory price cutting of the standardized price the country over is so great that it can be only hinted at here.

Any of your intelligent class of readers can follow the logical conclusions judging by facts. Every class of trade is imperiled.

Now consider that every producing interest of the country, and every selling merchant of the country, and their millions of employees and their families are dependent on the successful issue of their enterprises—which of the two, "The Producer" or "The Price Cutter," is most vital to the economic interests of the people of the United States?

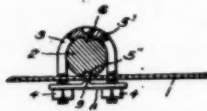
The correction of an evil, of a wrong, of the depredation of the weak by the strong, of piracy, of false pretenses, of dishonest trading by producer or price cutter, that is harmful to the great masses of our people, is a question of the day, of the hour, not one of opportunity or expediency. It is not a question of "High Price," but of "Honest Trading." Prices will take care of themselves.

Many a man who imagines that he is a born leader isn't even a successful follower.

Is Granted Patent Rights for Damper.

Under number 1,411,745, Heyman Rosenberg, New York, New York, has obtained United States patent rights for the damper described herewith:

In a damper structure, the combination of a damper, a rod, and a



1,411,745.

U-bolt clamping the rod and damper together, the rod being formed with a recess remote from the damper and a recess adjacent to the damper, the bolt being formed with a projection extending into one of the recesses, and the damper being formed with a projection extending into the other recess.

More Zideck Articles Are Coming

Further lessons in automobile radiator repairing are in preparation by E. E. Zideck of New York City for AMERICAN ARTISAN AND HARDWARE RECORD and will be published in forthcoming issues.

Notes and Queries

Tinners' Tools.

From B. J. Malerich, International Falls, Minnesota.

Kindly inform me where I can get tinners' tools.

Ans.—Bertsch and Company, Cambridge City, Indiana; Dreis and Krump Manufacturing Company, 2911 South Halsted Street, Chicago, Illinois; Ewert and Kutschied Manufacturing Company, 921 West 49th Place, Chicago, Illinois; W. C. Hopson Company, 516 Ellsworth Avenue, Grand Rapids, Michigan; Maplewood Machinery Company, Fullerton and Maplewood Avenues, Chicago, Illinois; Marshalltown Manufacturing Company, Marshalltown, Iowa; The J. M. and L. A. Osborn Company, Cleveland, Ohio; Vaughan and Bushnell Manufacturing Company, 2114 Carroll Avenue, Chi-

cago, Illinois; Viking Shear Company, Erie, Pennsylvania; W. A. Whitney Manufacturing Company, Rockford, Illinois; Whitney Metal Tool Company, Rockford, Illinois; Clark-Smith Hardware Company, Peoria, Illinois; Peck, Stow and Wilcox Company, Southington, Connecticut; Niagara Machine and Tool Works, Buffalo, New York.

Stove Valves.

From O. G. and D. H. Donaldson, 50 South Division Street, Buffalo, New York.

Please advise us who makes stove valves.

Ans.—McRae and Roberts Company, 227 Campbell, Detroit, Michigan; Detroit Brass Works, 331 Holden, Detroit, Michigan; H. Mueller Manufacturing Company, Decatur, Illinois; and Rockford Brass Works, Rockford, Illinois.

Hand Spring Paper Punch.

From Wilhelm-Coddington Hardware Company, No. 808 Lincoln Way, La Porte, Indiana.

Where can we buy a hand spring paper punch that will punch through several thicknesses of heavy paper?

Ans.—Fred J. Meyers Manufacturing Company, Hamilton, Ohio, and Bullard and Gormley, 54 East Lake Street, Chicago, Illinois.

Wrought Iron Ornamental Conductor Bands.

From E. H. Ward and Company, Oakland Building, Lansing, Michigan.

Kindly inform us where we can get wrought iron ornamental conductor bands.

Ans.—F. P. Smith Wire and Iron Works, Fullerton and Clybourn Avenues, and E. M. Weymer Company, 1800 North Francisco Avenue, both of Chicago, Illinois.

Address of Dairy Machinery and Construction Company.

From L. R. Hamman, 347 East Main Street, Decatur, Illinois.

Can you tell us where the Dairy Machinery and Construction Company is located.

Ans.—Derby, Connecticut.

"Swartwout" Ventilators.

From Canton Roofing and Heating Company, 63 South Main Street, Canton, Illinois.

Please let us know who makes the "Swartwout" ventilators.

Ans.—Ohio Body and Blower Company, 9300 Detroit Avenue, Cleveland, Ohio.

Descriptive Index and Guide to New Patents.

Improved Devices Which May Save Labor in Your Shop
or Add Another Source of Income to Your Retail Store.

1,412,201. Implement for Picking Up Ears of Corn. Henry L. Westerhaus, Pemberville, Ohio. Filed April 26, 1921.

1,412,205. Wrench Attachment. Joseph E. Fisher, Oceanside, California. Filed August 31, 1920.

1,412,243. Blowpipe. William L. Herron, Hartford, Connecticut, assignor, by mesne assignments, to Carbic Manufacturing Company, Duluth, Minnesota, a Corporation of Minnesota. Filed April 21, 1919.

1,412,255. Agitator. Glenn More, Jamestown, New York, assignor to Blackstone Manufacturing Company, Jamestown, New York, a Corporation of New York. Filed February 7, 1921.

1,412,260. Wrench. Clarence E. Reed, Houston, Texas. Filed July 29, 1920.

1,412,284. Tool Holder. Samuel Jack Hellman, Los Angeles, California. Filed January 10, 1921.

1,412,447. Wire Stretcher. Adolph Bloom, Lansing, Michigan. Filed October 25, 1919.

1,412,469. Bit-Chuck Retainer. Francis A. Jimerson, Athens, Pennsylvania, assignor to Ingersoll-Rand Company, Jersey City, New Jersey, a Corporation of New Jersey. Filed November 9, 1920.

1,412,507. Nail Set. Charles J. Carter, Kansas City, Missouri. Filed June 4, 1921.

1,412,550. Screw Driver. Ben L. Bentley, Franklin, Pennsylvania. Filed August 19, 1921.

1,412,583. Lawn Mower. Jasper Vannette, Tiffin, Ohio, assignor of one-third to Verne V. Vannette and one-third to Adair B. Vannette, Tiffin, Ohio. Filed May 15, 1920.

1,412,610. Fastening for Tool Handles. Timothy J. Foley, New York, New York. Filed February 15, 1921.

1,412,652. Metal Cutting Mechanism. Aure O. Bouvier, Claremont, New Hampshire. Filed October 12, 1921.

1,412,653. Broom. Oren K. Boyett, Doucette, Texas. Filed August 7, 1919.

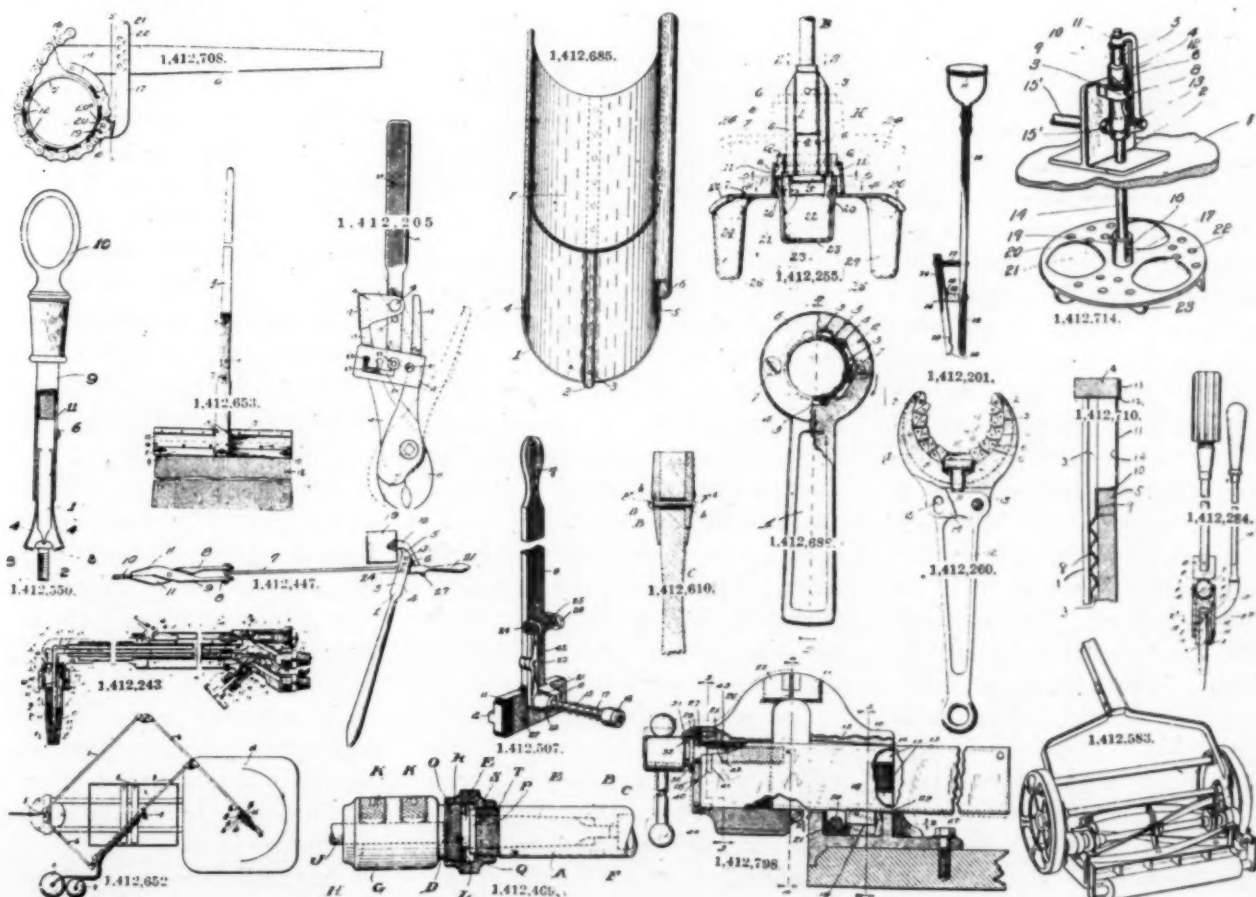
1,412,685. Drainage Means for Combination Gutters. Frederick J. Hacker, Waterloo, Iowa. Filed May 17, 1921.

1,412,688. Tool Holder. James L. Layton and Evan T. Hopkins, Tacoma, Wash. Filed October 21, 1920.

1,412,708. Pipe Wrench. Zachary C. Richardson, Baton Rouge, Louisiana. Filed August 2, 1921.

1,412,710. Washboard. Carl Rush, Wharton, Texas. Filed June 29, 1917.

1,412,714. Washing Machine Applicator. Henry Sieben, Kansas City, Missouri. Filed February 10, 1921.



Review of Conditions in the Metal Markets.

General Situation in the Steel Industry. Report of Prices and Tendencies in Sheet Metals, Pig Iron, etc.

DEMAND FOR COPPER IS LESS THAN USUAL.

Copper producers show no inclination to shade 14 cents for electrolytic either for nearby or future shipment but second hands are now willing to sell at 13 $\frac{7}{8}$ cents delivered in the Connecticut valley for shipment beginning in June and running over the third quarter of the year.

The easier tendency is reflected in the light demand from consumers.

This applies to foreign as well as to domestic melters.

The requirements of consumers generally, that is, the large interests, of course, are well covered for a month or two at least, and the next buying movement will be for third quarter shipment.

Some little interest is being taken in further off futures, but for the time being there is small inclination to buy.

On the other hand, there is no inclination on the part of large producers to seek business, either for nearby or future shipment.

Exporters have fewer inquiries and are temporarily out of the market, but some further business has been done abroad by the Copper Export Association for shipment to Germany and France. The opposition of France to modify reparation claims against Germany apparently will prevent an international loan to Germany. Thus far, however, Germany has been able to finance American purchases of copper and probably will be able to do so in the future, even if the loan is abandoned. Lower ocean freight rates have followed the breaking of the continental European conference and it is now possible to ship copper to German ports at close to \$3—\$3.50 a long ton. The conference rate was \$4. Lower freight rates may stimulate German purchases.

Before the war Japan was supplying its own copper requirements and exporting more than half of its production.

This was true in 1913, when it exported 62 per cent of its output and as for copper imports, obviously these were light.

Since the war, production has not been increased, but the volume of consumption has expanded amazingly, resulting in importations of between 58,000,000 and 60,000,000 pounds yearly, mostly from the United States.

At the same time exports from Japan were only one-eighth of the pre-war rate.

That the imposition of a Japanese duty on copper amounting to about 82 per cent has already affected the flow of the red metal to that country can be seen in the Custom House returns from day to day.

Inasmuch as that country can not take care of its own demand, after present supplies are exhausted, consumers there will probably pay the increased price until such time as enough pressure is brought to bear to have the tariff repealed.

Tin.

From day to day, the pendulum of tin prices swings backward and forward through an arc of changing quotations.

Earlier in the week, losses ranging from £1 to £1 12s 6d were registered in London, while the Far Eastern market showed a drop of 15s on sales of 75 tons.

The London market was fairly active Tuesday, with transactions amounting to 550 tons, but there was very little business evident in the domestic market.

The recent softness of the London market was augmented by the failure of the negotiations for a loan to Germany, while another decline in sterling exchange was registered.

London dispatches state that the present financial situation in the Federated Malay States is desperate, which being the case arouses some speculation as to its ability indefinitely to hold the large stocks of tin accumulated the past year.

Lead.

The low production of lead ores in other mining sections is causing a larger demand to be centered upon the output of the Joplin region.

As a consequence, the competition is becoming more intense for the limited production of that district.

There is not much desilverised lead offering in the western outside market. Producers of this grade find it difficult to keep their regular trade fully supplied and are not seeking orders at present beyond customary channels.

The bookings for July are already heavy, indicating continued large consuming needs through the summer.

Solder.

Solder prices now in effect in the Chicago market are as follows:

Warranted, 50-50, per 100 pounds, \$22.50; Commercial, 45-55, per 100 pounds, \$22.00; and Plumbers', per 100 pounds, \$19.25.

Zinc.

No changes of any importance have taken place in the price situation of the zinc market.

There is more disposition shown on the part of some sellers to offer future positions at close to the price of June, and some offerings have been made extending over the balance of the year at but a small premium.

Consumers, however, seem to be adhering to a policy of buying only against actual sales of their own products and the interest in further off futures is small.

Practically the entire June out-

put of zinc already has been sold, present sales being against stocks.

Sheets.

With the market as active as it is, and with consumption running quite heavy in proportion of sheet producing capacity, it is to be observed that sheet buyers are not inclined to seek protection as far ahead as they used to do before the war when the current conditions were equally strong.

Then they used to think two or three quarters ahead, and sometimes even farther ahead, whereas now they are looking a much shorter distance ahead.

Sheet production is running at approximately the same rate as for several weeks past, being at between 80 and 85 per cent of rated capacity.

The leading interest continues its schedule, adopted long ago, of operating 90 per cent of its sheet mills.

For deliveries after July there is a moderate amount of covering being done. This is in different forms with the leading interests and the independents.

The former has not opened its order books, with definite prices, beyond July, but in particular cases it is willing to enter tonnages provisionally for August, or August and September, subject to prices being attached later, when it announces its official prices.

Among the independents the common procedure now is to enter definite orders or contracts, and prices above the present market basis by \$2 a ton on blue annealed, \$3 on black and galvanized and \$5 on automobile sheets.

Tin Plate.

The tin plate market remains unchanged at \$4.75 per base box of 100 pounds, Pittsburgh.

The market has been gradually firming up for months past, leaving behind the moderately large concessions from the regular prices that were being made late the past year and early in the new year.

This stiffness in the price need not be attributed entirely to the de-

mand, for the matter of cost of production enters.

It seems altogether probable that mills that do not make their sheet bars will have a cost based on \$35 for bars, against an average in the first half of not over \$30, and that makes about 25 cents a box right there.

Old Metals.

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: Old steel axles, \$15.50 to \$16.00; old iron axles, \$21.50 to \$22.00; steel springs, \$15.50 to \$16.00; No. 1 wrought iron, \$13.50 to \$13.00; No. 1 cast, \$15.50 to \$16.00 all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 8½ cents; light brass, 4½ cents; lead, 4¼

cents; zinc, 2½ cents; and cast aluminum, 12 cents.

Pig Iron.

It is extremely difficult to find a feature in the pig iron market, says the Matthew Addy Company, Cincinnati, Ohio.

There is no outstanding characteristic except the great and encouraging fact that things are better and there is abundant promise that they will continue to be more so.

Yet buyers are cautious. They are limiting purchases to actual needs and sellers are equally cautious.

They are refusing to extend deliveries over any great length of time.

All this makes for a good steady solid non-speculative market.

The Market for Rivets Has Been Stabilized and Is Now Established at Advanced Price.

Expansion of Steel Industry Is So Great That a Shortage of Labor Would Result from Attempt at 100 Per Cent Operation

THE market for rivets is now definitely established at 2.40 cents for structural and 2.50 cents a pound base Pittsburgh for boiler.

Jones and Laughlin's subsidiary, the Graham Nut and Bolt Company, led the advance, and other makers, including the Pittsburgh followed.

The market was formerly at 2.25 for structural and 2.35 cents for boiler.

On small rivets 70, 10 and 10 per cent off list is now quoted, only on car lots to large buyers.

Already some shortage in labor has been noticed at one or two steel mills, and the industry is operating at only 75 per cent of capacity.

It has been stated in several quarters that the steel industry has expanded so that its size relative to the industrial size of the country is now much greater than formerly and that if it were now to attempt to operate at 100 per cent of capacity a shortage of labor and transportation would be uncovered

that would hamper its progress materially.

With a likelihood of the steel industry being undermanned in the near future and with an excess of labor burdening the bituminous coal industry a solution of the two problems seems to present itself.

The unfilled steel tonnage of the United States Steel Corporation as of May 31, amounted to 5,524,228 tons, an increase of 157,311 tons for the month.

This compares with an increase of 602,265 tons in April and is the largest aggregate tonnage on the books of the leading interest in more than six months.

The mills of the corporation produced about 2,720,000 tons during the month, indicating an operating rate of approximately 74 per cent of capacity, while the independents did slightly more than 68 per cent.

This makes a combined operating rate for the entire industry, for the month of May of about 71 per cent.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

PIG IRON.

Chicago Foundry...	23 00
Southern Fdy. No. 2, 24 16 to 25 16	
Lake Sup. Charcoal.....	29 00
Malleable	23 00

FIRST QUALITY BRIGHT TIN PLATES.

	Per Box
IC 14x20 112 sheets	\$10 00
IX 14x20.....	11 25
IXX 14x20.....	12 60
IXXX 14x20.....	13 90
IXXXX 14x20.....	15 25
IC 20x28.....	20 00
IX 20x28.....	22 50
IXX 20x28.....	25 20
IXXX 20x28.....	27 80
IXXXX 20x28.....	30 50

COKE PLATES.

Cokes, 180 lbs...	20x28 \$11 80
Cokes, 200 lbs...	20x28 12 00
Cokes, 214 lbs...IC	20x28 12 35
Cokes, 270 lbs...IX	20x28 14 10

BLUE ANNEALED SHEETS.

Base.....	per 100 lbs. \$3 38
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ONE PASS COLD ROLLED BLACK.

No. 18-20.....	per 100 lbs. \$4 25
No. 22-24.....	per 100 lbs. 4 30
No. 26.....	per 100 lbs. 4 35
No. 27.....	per 100 lbs. 4 40
No. 28.....	per 100 lbs. 4 45
No. 29.....	per 100 lbs. 4 55

GALVANIZED.

No. 16.....	per 100 lbs. \$4 70
No. 18-20.....	per 100 lbs. 4 85
No. 22-24.....	per 100 lbs. 5 00
No. 26.....	per 100 lbs. 5 15
No. 27.....	per 100 lbs. 5 30
No. 28.....	per 100 lbs. 5 45
No. 30.....	per 100 lbs. 5 95

BAR SOLDER.

Warranted.	
50-50	per 100 lbs. \$22 50
Commercial.	
45-55	per 100 lbs. 22 00
Plumbers	per 100 lbs. 19 25

ZINC.

In Slabs	5 95
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SHEET ZINC.

Cask lots, stock.....	8 1/2 c
Less than cask lots.....	9

COPPER.

Copper Sheets, base.....	20c
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LEAD.

American Pig	\$6 15
Bar	6 90
Sheet.	
Full coils	per 100 lbs. 8 25
Cut coils	per 100 lbs. 8 50

TIN.

Pig tin.....	per lb. 35 1/5c
Bar tin.....	per lb 37 1/5c

HARDWARE, SHEET METAL SUPPLIES, WARM AIR HEATER FITTINGS AND ACCESSORIES.

ADZES.

Coopers' Barton's	Net
White's	Net

AMMUNITION.

Shells, Loaded, Peters.	
Loaded with Black Powder 18%	
Loaded with Smokeless Powder	18%
Winchester.	
Smokeless Repeater	
Grade	20 & 4%
Smokeless Leader	
Grade	20 & 4%
Black Powder	20 & 4%
U. M. C.	
Nitro Club	20 & 4%
Arrow	20 & 4%
New Club	20 & 4%

Gun Wads—per 1000.

Winchester 7- 8 gauge 10&7 1/2 %	
" 9-10 gauge 10&7 1/2 %	
" 11-28 gauge 10&7 1/2 %	

ASBESTOS.

Paper up to 1/16.....	6c per lb.
Rollboard	6 1/2 c per lb.
Millboard 3/32 to 1/2.....	6c per lb.
Corrugated Paper (250 sq. ft. to roll).....	\$6.00 per roll

AUGERS

Boring Machine.....	40&10%
Carpenter's Nut	50%

Hollow.

Bonney's.....	per doz. \$30 00
Post Hole.	
Iwan's Post Hole and Well	
Vaughan's, 4 to 9 in., with out handles per doz.	\$14 00

AWLS.

Brad.	
No. 3 Handled.....	per doz. \$0 65
No. 1050 Handled	1 40
Patent asst'd, 1 to 4	35
Harness.	
Common	per doz. \$1 05
Patent	1 00
Peg.	
Shouldered	1 60
Patented	75
Scratch.	
No. 18, Socket	
Handled	per doz. \$2 50
No. 244 Goodell-Pratt, list less	35-40%
No. 7 Stanley.....	per doz. \$2 25

AXES.

First Quality, Single Bitted (unhandled), 3 to 4 lb., per doz.....	\$11 00
Good Quality, Single Bitted, same weight, per doz.	10 00

BALANCES, SPRING.

Universal.	
Sight Spring.....	List less 25%
Straight	List less 25%

BARS, WRECKING.

V. & B. No. 12.....	\$0 45
V. & B. No. 24.....	0 75
V. & B. No. 324.....	0 80
V. & B. No. 30.....	0 85
V. & B. No. 330.....	0 90

BEVEL, TEE.

Stanley's Rosewood handle, new list	
Stanley Iron handle.....	Nets

BINDING CLOTH.

Zinc	55%
Brass	40%
Brass, plated	60%

BITS.

Auger.	
Jennings Pattern.....	Net
Ford Car.....	25% off
Ford's Ship.....	25% off
Irwin	35%
Russell	less 10%
Clark's Expansive.....	33 1/2 %
Center	10%

Countersink.

American Snailhead.....	1 75
" Rose	2 00
" Flat	1 40

Dowel.

Russel Jennings	plus 20%
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Gimlet.

Standard Double Cut Gross	\$8 40
Nail Metal Single Cut	Gross \$4 00—\$5 00

Reamer.

Standard Square.....	Doz. \$3 50
American Octagon.....	2 50

Screw Driver.

No. 1 Comomn.....	Each 18c
No. 26 Stanley.....	Each 70c

BLADES, SAW.

Wood.	
Atkins 30-in.	
Nos.	6 40 26
" \$3 90 \$3 45 \$5 40	
Diston 30-in.	
Nos.	6 66 26
" \$9 45 \$10 05 \$3 45	

BLOCKS.

Wooden	20%
Patent	20%

BLOW TORCHES (See Firepots).

BOARDS.

Stove.	
26x26, wood lined.....	Per. Doz. \$14 45
28x28, " "	16 95
30x30, " "	19 00
26x26, paper lined.....	8 15
28x28, " "	9 10
30x30, " "	10 80

Wash.

No. 760, Banner Globe (single)	per doz. \$5 25
No. 652, Banner Globe (single)	675
No. 801, Brass King, per doz.	\$ 25
No. 860, Single—Plain Pump	6 25

BOLTS.

Carrriage, Machine, etc.	
Carrriage, cut thread, 1/2 x 6 and sizes smaller and shorter	60 & 5%
Carrriage sizes, larger and longer than 1/2 x 6.....	50 & 10%
Machine, 1/4 x 4 and sizes smaller and shorter 60 & 10 & 5%	
Machine, sizes larger and longer than 1/4 x 4.....	60 & 5%
Stove	80%

Mortise, Door.

Gem, Iron	5%
Gem, bronze plated.....	5%

Barrel.

Cast	Net
Wrought	"
Wrought, bronzed	"

Flush.

Wrought	Net
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Spring.

Wrought	"
Wrought, heavy	"

Square.

Wrought	"
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BOXES.

Mail. No. 2.....	4 10
Per doz. \$18 00 \$23 00 \$29 00	

Cast Iron.

Per doz.	\$9 50
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Mitre.

Stanley's.....	Net Prices
Stearns, No. 2.....	per doz. \$48 00

BRACES, RATCHET.

Goodell-Pratt No. 408.....	\$4 60
" " No. 410.....	4 80
" " No. 412.....	5 00

V. & B. No. 444 8 in.....	4 65
V. & B. No. 333 8 in.....	4 30
V. & B. No. 222 8 in.....	4 00
V. & B. No. 111 8 in.....	3 50
V. & B. No. 11 8 in.....	3 05

BURRS, RIVETING.

Copper Burrs only.....	50%
Tinners' Iron Burrs only.....	Net

BUTTS.

Steel, antique copper or dull brass finish—case lots—3 1/2 x 3 1/2	per dozen pairs \$2 75
4 x 4	3 80

Heavy Bevel steel inside sets, case lots—	
per dozen sets	7 50

Steel bit keyed front door sets, each	1 80
Wrought brass bit keyed front door sets, each....	3 25
Cylinder front door sets, each	7 00

CALIPERS.

Double	Net
Inside and Outside	"
Wing	"

CARRIERS.

Hay.	
Diamond, Regular.....	each, nets
Diamond, Sling.....	" "

CASTERS.

Standard—Ball Bearing.	
"	50 & 10%
Bed	40%

Common Plate.

Brass Wheel	15%
Iron and porcelain wheels, new list	50%
Philadelphia Plate, new list	50%
Martin's	40%

CATCHERS, GRASS.

No. 160S.....	per doz. \$12 25
No. 165S.....	14 01

CEMENT, FURNACE.

American Seal, 5 lb. cans, net	\$0 45
" 10 lb. cans,	90
" 25 lb. cans,	1 87
Asbestos, 5 lb. cans.....	45
Pecora, 5 lb. cans.....	45
" 10 lb. cans.....	90
" 25 lb. cans.....	1 87

CHAINS.

Breast Chains.	
With Slide.....	doz. pairs, \$5 50
Without Slide.....	5 06
Doublestack	9 35
With Covert Snaps	6 33

Picture Chains.

Light brass, 3 ft., per doz.	1 25
Heavy brass, 3 ft.	1 75

Sash Chain. (Morton's)

Steel, per 100 ft.	
0	\$2 50
1	3 10
2	3 60

Champion Metal.

0R	5 40
2R	5 60
1R	7 75

Champion Metal—Extra Heavy.

1H	\$9 50
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Cable Sash Chains.

Steel.....	List Net Plus 15%
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CHALK, CARPENTERS.

Blue	per gro. \$2 00
Red	2 00
White	1 80

Common White School.

Crayon	0 30
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CHIMNEY TOPS.

In bags.....	per bag \$1 30
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CHECK, DOOR.

Corbin	Net list
Russwin	Net list

CHISELS.

Cold.	
Good quality, 1/4 in., each	\$0 44
" 1/2 in.,	0 22

Diamond Point.

V. & B. No. 15, 1/4 in.....	0 23
V. & B. No. 15, 1/2 in.....	0 43

Firmer Bevelled.

Round Nose.	
V. & B. No. 65, 1/4 in.....	0 33
V. & B. No. 65, 1/2 in.....	0 44

Socket Firmer.

Cape.	
V. & B. No. 50, 1/4 in.....	0 29
V. & B. No. 50, 1/2 in.....	0 64

CHUCKS, DRILL.

Goodell's, for Goodell's Screw Drivers.....	List less 35-40%
Yankee, for Yankee Screw Drivers	\$6 00

CLEAVISES.		FACES, WOOD—50% off list.		Tinner's Riveting, No. 1, 8		Clothes Line.	
Malleable	10c lb.	FENCING.		oz., each	80	Japanned....per doz.	35c—1 00
CLIPPERS.		Lawn fence, single space,		Shoe, Steel, No. 1, 13 oz.,	73	Galvanized....	65c—2 25
Bolt (Carolus).		36-inch	\$ 9 12	each		Conductor.	
No. 0.....	\$2 50	Lawn fence, single space,		Tack.		Conductor hooks	20-10%
No. 1.....	3 25	42-inch	10 20	Magnetic.		Milcor	.....Net
No. 3.....	4 25	Lawn fence, double space,	12 50	No. 5, each	1 00	Corn.	
CLIPS.		Lawn fence, double space,		HAMMERS, HEAVY.		Common, riveted, red, per dz.	Net
Axle	65&5%	42-inch	13 75	Farriers'	20%	Little Giant.....	"
Damper.		Field fence, 26-inch, No. 10	26 50	Mason's		Grass.	
Acme, with tall pieces,		top and bottom 12 filling	33 82	Single and Double Face....	50%	Common Nos. 1 3 5 7	3 50
per doz.	\$1 25	Same, 6 filling.	33 82	HANDLE.		Per doz. \$4 25 3 25 3 40 3 60	
Non Rivet tall pieces,		Field fence, 32-inch, No. 10	30 34	Auger.		Hammock.	
per doz.	25	Same, 6 filling.	39 41	Common Assorted, per doz.	\$0 75	With plate.....per doz.	\$1 00
Non Rivet Clips.....	90	FILES AND RASPS.		Pratt's Adjustable, Nos.		With screw.....	95
Hame	50c	Heller's (American).....	70%	1 & 2, per doz.	6 00	Picture.....	50%&50%&10%
COLLARS, STOVE PIPE.		American.....	70%	Ives' Adjustable, per set	1 35	Potato and Manure.....	Nets
Lacquered.		Arcade.....	60 & 10%	AXE.		HOSE.	
Inches.....	5 6 7	Black Diamond.....	60-10%	Hickory, No. 1.....per doz.	3 00	%-inch molded reel	Per Ft.
Fancy pattern,		Eagle.....	60-10%	Hickory, No. 2.....	2 00	%-inch 3 ply duck.....	13 1/2c
per doz.....	65c 75c \$4 00	Great Western.....	60 & 10%	1st quality, second growth	6 00	%-inch 4 ply duck.....	16c
COMPASSES.		Kearney & Foot.....	60 & 10%	Special white, 2nd growth	4 50	%-inch 5 ply multiple.....	10 1/2c
Carpenters.....	15%	McClellan.....	60 & 10%	Chisel.		IRON.	
COPPERS—Soldering.		Nicholson.....	50-10-10%	Hickory, Tanged, Firmer		Sad.	
Pointed Roofing.		Simonds.....	60%	Assorted.....per doz.	55c	Charcoal.....per doz.	\$11 00
3 lb. and heavier.....per lb.	40c	J. Barton Smith.....	50-10-5%	Hickory, Socket Firmer,		Common, polished, per	
2 lb.....	45c	X F.....	Net List	Assorted.....per doz.	70c	100 lbs.....	7 75
2 1/2 lb.....	45c	FIRE POTS.		Coal Pick.....	40%	No. 70 Asbestos.....	\$1 50 net
1 1/2 lb.....	55c	Clayton & Lambert's—		Drifting Pick.....	40%	No. 100.....	1 75 net
1 lb.....	60c	East of west boundary line of		Hammer and Hatchet.		Common, nickel plated..	8 25
CORD.		Province of Manitoba, Canada,		No. 1, per doz.....	\$0 80	Mrs. Pott's,	
Picture.		No. Dakota, So. Dakota, Ne-		Second growth hickory, per	1 20	No. 50 J. Enterprise, per set	Nets
White Wire.....	60 & 5%	braska, Kansas, Oklahoma,		doz.		No. 55 J.....	"
Sash.		Amarillo, San Angelo and La-		Hay and Manure Fork, Han-		No. 50 T.....	"
Spot No. 7.....per lb.	65c	redo, Texas.....	55%	dies, Strap and Ferrule..		No. 55 T.....	"
Common, No. 7.....	40c	West of above boundary	52%	per doz.	\$7 00	JACKS.	
COTTERS, SPRING.		Turner Brass Works—		Screw Driver.		Richard's No. 1.....per doz.	\$15 50
All sizes.....	87 1/2%	No. 43 Kerosene-Gasoline		Assorted.....each	6c	Olliver,	
COUPLINGS, HOSE.		Master Torch, 1 qt.....	\$5 40	Shovel and Spade.....	Net	Each.....	\$0 60 \$0 80
Brass.....per doz.	\$2 25	No. 48 Kerosene-Gasoline		HANGERS.		Nos.....	0 00
CUT-OFFS.		Master Torch, 1 qt.....	6 73	Door.		Standard,	
Standard gauge.....	35%	No. 95 Double Jet Torch,		Matchless.....	Net	Each.....	\$0 60 \$1 00
26 gauge.....	20%	Gasoline, 1 qt.....	6 95	Reliable.....	Net	Nos.....	1 2
CUTTERS.		No. 30 Kerosene-Gasoline		Richards.....	25%	Big Lift.....	40%
Glass.		Torch, 1 qt. (new line).	6 43	Garage Door.		Tiger.....	40%
Red Devil.....	Net	No. 33 Single Jet Gasoline		(See Garage Door Hdw.)		KETTLES.	
Meat.		Torch, 1 qt.....	6 93	Conductor Pipe.		Brass.....	15%
Enterprise—Nos. 5 10 12		Plumbers' Furnaces.		Iwan's Perfection.....	50%	Cauldron.....	40&5%
Each.....	\$2 50 \$4 25 \$3 75	No. 53 Galv. Iron Tank		Milcor Perfection.....	Net	Copper.....	per lb. 27
" Nos. 22 32		with Bulb, 7 pts.....	6 75	Eaves Trough.		Maslin.....	40&10%
".....	\$6 50 \$5 50	No. 63 Galv. Iron Tank		Steel hangers.....	30%	Sugar.....	50%
Pipe.		with Pump, 7 pts.....	7 47	Triple twist wire.....	10%	KNIVES.	
Saunders', Nos. 1 2 3		No. 56 Straight Side Steel		Milcor Eclipse.....	Net	Beet Topping.	
Each.....	\$1 85 2 75 6 75	Tank with Bulb, 7 pts.	8 82	Milcor Triplex.....	Net	Clyde, 9-in. Scimitar Blade,	
Slaw and Kraut.		No. 65 Straight Side Steel		Milcor Milwaukee.....	Net	doz.	25%
4-knife Kraut.....	\$20 00-55 00	Tank, with Pump, 7 pts.	9 54	HASPS.		California.....	25%
3-knife Kraut,		GALVANIZED WARE		Hinge, Wrought, with staples, Net		Butcher.	
6x27 in.....	13 00-18 00	Pails (Competition), 8-qt.....	1 65	HATCHETS.		Beechwood Handles, 6-inch	
1-knife Slaw.....	2 50	10-qt.....	1 85	Size No. 2 extra quality		blade.....	25%
2-knife Slaw.....	3 00	12-qt.....	2 00	broad.....	\$16 00	Beechwood Handles, 7-inch	
Washer		14-qt.....	2 30	Competitive Grade.....	12 00	blade.....	25%
Diamond.		Wash tubs, No. 1.....	5 30	No. 2 Warranted Shingling	12 00	Beechwood Handles, 3-inch	
6-inch.....per doz.	\$1 50	No. 2.....	6 00	Competitive Forged.....	8 00	blade.....	25%
DAMPERS, STOVE PIPE.		No. 3.....	7 00	HAY RACK BRACKETS		Cooper's Hoop.....	25%
DIGGERS.		Garage Door Hardware		Wenzelman's No. 1		Drawing.	
Post Hole.		Stanley.....	All net	.....per doz. sets	\$18 00	Standard.....	25%
Iwan's Split Handle		GAUGES.		Wenzelman's No. 2		Adjustable.....	25%
(Eureka)		Marking, Mortise, etc.....	Nets	.....per doz. sets	19 20	Barton's Carpenters'.....	25%
4-ft. Handle.....per doz.	15 00	Wire.		HINGES.		Hay.	
7-ft. Handle.....per doz.	20 00	Disston's.....	25%	Blind.		Iwan's Solid Socket.....	25%
Iwan's Hercules pattern,		GIMLETS.		Clark's Gravity		Heath's.....	25%
per doz.	18 00	Discount.....	65% and 10%	No. 1.....per set	45c	Iwan's Sickle Edge.....	25%
Dividers, Wing.....	25%	GLASS.		No. 2.....	88c	Iwan's Imp'd Serrated.....	25%
DRILLS.		Single Strength, A and B,		Gate.		Hedge.	
Bench.		all sizes.....	85%	Clarks.....	1 2 3	Challenge.....	25%
Blacksmiths' Twist (New		Double Strength, A and B,		Hgs. & Litch, ea. 85c	1 10 2 40	Disston's No. 1.....	25%
List).....	40%	all sizes.....	85%	Hinges only—		Putty.	
Breast.		GLUE.		Upper.....	\$1 25	Common.....	25%
Millers Falls No. 12, per		Bulk.		Lower.....	1 55	Lander's.....	25%
doz.....	\$45 50	B Amber.....per lb.	35c	Latches only—		Beech Handle.....	25%
Millers Falls No. 112, per		A white.....	40c	No. 1.....each	28c	Lander's.....	25%
doz.....	32 00	H. S. Amber.....	32c	No. 2.....	28c	KNOB.	
Hand.		Liquid.		Screen Door.		Mineral.....per doz.	\$2 00
Goodell's Automatic.		Army & Navy.....	40%	1751-323.....doz.	\$2 00	Porcelain.....	2 00
No. 01.....each	\$1 60	Le Page's—		1753-2 1/2x2 1/2.....	1 95	Jet.....	2 00
No. 03.....	2 00	List "A".....	37 1/2%	Spring.		LADDERS.	
Goodell-Pratt No. 4 1/2	3 00	List "B".....	35%	Chicago.....Add 10% to list		Step.	
Goodell-Pratt No. 379.	4 00	List "C".....	25%	Gem.....	25%	Common, per ft.....	38c
Reciprocating.		GREASE, AXLE.		Matchless.....	40%	Common, with Shelf, add 10c	
Goodell's.....	3 20	Wood Boxes.		New Idea.....per gross	\$6 90	IXL.....	34c
DRIVERS, SCREW.		Frazer's.....per gro.	\$13 00	Wrought Iron.		Challenge, 6 to 9 ft.....	55c
Standard.....	Nets	Hub Lightning.....	7 50	Per 100 pairs with screws:		10 to 16 ft.....	60c
EAVES TROUGH.		Wood Pails.		Light Strap Hinges, No. 3	\$12 00	LANTERNS.	
75 and 15% of Standard List.		Frazer's, 15 lb. \$1.00; 25 lb.		Heavy Strap Hinges, No. 4	15 75	Monarch tin, hot blast.....	\$ 25
Milcor.....	Net	\$1.50 each.		Light T Hinges.....No. 3	12 10	Dietz No. 2 cold blast.....	13 00
ELBOWS—Conductor Pipe.		Hub Lightning, 15 lb. 90c; 25		Heavy T Hinges.....No. 4	20 00	Best tubular.....	8 25
Galvanized Steel, Tin and Terne		lb. \$1.21 each.		Extra Heavy T Hinges.		Competition lanterns No. 0	
Plate Round or Round Corrugated		HAFTS, AWL.		No. 4	21 50	tubular.....	6 65
2 to 6 inch, Std. gauge.....	65%	Brad.		Screw Hook and Strap.		LEATHER, LACE.	
2 to 6 inch, 26 gauge.....	45%	Common.....per doz.	\$0 35	6 to 12 in.....per 100 lbs.	\$7 75	Rawhide 1/4-inch.....100 ft.	\$2 00
2 to 6 inch, 24 gauge.....	15%	Patent, plain top.....	80	14 to 20 in.....	7 50	1/2-inch.....	4 00
Milcor.....	Net	Patent, leather top.....	80	22 to 36 in.....	7 25	LEATHERS, PUMP.	
Square Corrugated.		Sewing.		Screw Hook and Eye.		Valve and Plunger.....	Net
Standard gauge.....	50%	Common.....	24	1/4 in.....per doz. pair	\$2 00	LEVELS.	
26 gauge.....	35%	Patent.....	55	1/2 in.....	3 50	Disston, No. 28 Asst.....	\$22 05
Milcor.....	Net	HAMMERS, HANDLED.		1 in.....	5 00	" No. 18, 20 in. each	1 33
ELBOWS—Stove Pipe.		Each, net		HOES.		" No. 22, 24 in. each	3 40
1-piece Corrugated, Uniform		Blacksmiths', Hand, No. 0		Garden.....	Net	" Shafting, 6 in.....	19 80
Doz.		26-oz.....	\$1 35	Awning, No. 60.....	Net	" 6 in. gr. glass	24 20
5-inch.....	\$1 25	Engineers', No. 1, 26-oz.....	1 35	Belt.		" No. 1 Asst.....	5 75
6-inch.....	1 40	Farriers', No. 7, 7-oz.....	1 41	Brown's.....	70&5%	" No. 9 Asst.....	12 00
7-inch.....	1 80	Machinists', No. 1, 7-oz.....	1 06	Jones'.....	65&5%	" 24-26 in. each	1 00
Special Corrugated.		Nail.		No.....	3 10 12	" 28-30 in. each	1 00
6-inch.....	\$1 15	Vanadium, No. 41, 20-oz.,	1 45	Each.....	\$0 29 0 77 0 36	LIFTERS.	
7-inch.....	1 60	Vanadium No. 41 1/2, 18-oz.,	1 45	Common Axe Handle,		Stove Cover.	
Uniform, Collar Adjustable		each.....	1 45	per doz.....	\$20 00	Coppered.....per gro.	\$6 00
5-inch.....	\$1 60	V. & B., No. 11 1/2, 18-oz.,	1 04	Chain.		Alaska.....	4 75
6-inch.....	1 80	each.....		Inch. 1/4 1/2 5/16 7/16 1		Payson's.....	55%
7-inch.....	2 25	Garden City, No. 11 1/2, 16	77	Pr. 100 \$7 60-8 10 9 75 11 50 12 60			

LINES.			PAPER.			POINTS, GLAZIERS.			RIVETS.		
Jute	.....	per lb. 25c	Roofing.	Per square		No. 1, 2 and 3.....	per doz. 75c		Copper Belt.....	50% Discount	
Sisal	.....	" 35c	Mayor, 1-ply	.....	\$1 33	POINTERS, SPOKE.			Coppered Iron.....	50%	
Cotton	.....	" 25c	" 2-ply	.....	2 24	Stearns' No. 1.....	per doz. \$10 00		Tinners'.....	50%	
Braided Cotton	.....	" 52c	" 3-ply	.....	2 65	No. 2.....	12 00		Home	per lb. \$0 17	
LINING, STOVE.			Red Rosin	.....	per ton \$11 45	POKERS, STOVE.			Slotted Clinch	per doz. 60 @ 1 10	
Bricks	.....	per crate 42c	Sand and Emery.			Wrt Steel, str't or bent,	.....	per doz. \$0 75	Tabular.		
LOCKS.			No. 1, per ream, best grade	\$5 40		Nickel Plated, coil hawl's	"	1 10	No. 1 and 2 assorted sizes,	50 in box.....	doz. 75c
Barn Door.			No. 1, per ream, cheaper	4 35		PRESSES, FRUIT AND JELLY			No. 1 and 2 assorted sizes,	10 in box.....	doz. 1 40
No. 60 Stearns.....	per doz. \$12 00		Potato.			Enterprise Manufacturing Co, 25%					
No. 80	24 00		Goodell's Saratoga, 10 1/2	in. doz.	6 50	PRUNERS.			ROPE.		
MACHINES			Goodell's Saratoga, 5 in.	doz.	5 50	Disston's Pole.....	per doz. \$18 00		5/8, 5-16 in. Com. on reels,	per lb.	80c
Riveting.			PICKS.			Water's Improved, per doz.	60%		5/8, 5-16 in. Com. in coils,	per lb.	80c
Stearns No. 1.....	per doz. \$16 00		Adze Eye Ore.....	22 1/2%		Nail.			Sisal.		
Tenoning.			Drifting and Poll Picks.....	22 1/2%		Giant.....	per doz. \$14 50		1st Quality, base 14 1/2c to 15 1/2c		
No. 50 Peace's Spoke, each	\$16 00		Plumbs, Railroad.....	22 1/2%		Never-Slip.....	17 00		No. 2.....	13c to 14c	
MALETS.			Surface.....	22 1/2%		PULLEYS.			Manila.		
Carpenters.			PINCERS.			Awning-Jap'd.....	10%		1st Quality standard		
Fibre Head, No. 2 per doz.	\$16 50		Carpenters', cast steel,			Clothes Line.....	10%		brands.....	17 1/2c to 18 1/2c	
No. 3	19 50		No.	6 8 10 12		Hay Fork.			No. 2.....	16c to 16 1/2c	
" No. 4	28 50		Each \$0 56 0 72 \$0 93 \$1 03			Iron Wheel, 5-in. per doz.	\$2 50		Hardware Grade, per lb.	12 1/2c	
Round Hickory	.....	per doz. \$3 00—5 00	Blacksmiths', No. 10.....	\$0 96		Wood Wheel, 6-in.	2 65		Pure Manila.		
MATS.			Heller's.....	List plus 10%		Wood Wheel, 6-in.,	pass knot.....	3 00	1st Quality, base,		
Door.			PINS			Sash.			per lb.....	17 1/2c to 18 1/2c	
National Rigid.....	5&10&5%		Clothes.			Common.....	Net		Hardware Grade, per lb.	11 1/2c	
Acme Steel Flexible.....	50%		Common, per box of 5 gro.	\$0 95		Common-Sense, 2-in.....	Net		SAWS.		
MEASURES.			Picket.			Empire Pattern, 2-in.....	Net		Butchers'.		
Galvanized, doz.....	Nets		Fluted, 15-in.....	per doz. \$1 10		Ideal.....	Net		Atkins No. 2, 14-in.....	\$12 20	
Japanned, doz.....	Nets		Fluted, 21-in.....	1 60		Steel.....	Net		" No. 2, 18-in.....	13 70	
NITRES.			Spiral.....	1 90		PUMPS.			" No. 7, 16-in.....	15 20	
Galvanized steel mitres, and			PIPE.			Midget Junior.....	per doz. \$3 75		" No. 2, 22-in.....	15 25	
caps, end pieces, outlets.....	30%		Conductor.			New Misty.....	6 00		" No. 7, 20-in.....	17 30	
Milcor.....	Net		Plain Round and Round Corru-			Crescent.....	6 50		" No. 7, 24-in.....	19 35	
MOPS			gated.			PUNCHES.			" No. 7, 28-in.....	21 40	
Cotton, Star (Cut Ends).			29 Gauge.....	70&5%		No. 22.....	per doz. \$3 00		Compass.		
Pounds 12' 15' 18' 24'-3-oz.			28 ".....	70&5%		Machine.....	per lb. 25		Atkins No. 2, 10-in.....	\$4 95	
Per doz. \$4 00 4 35 5 50 7 00			26 ".....	70&5%		Saddlers'.			" No. 10, 10-in.....	5 10	
Enterprise.....	16 1/2%		24 ".....	70&5%		Common.....	per doz. \$1 50 to \$5 00		" Blades, No. 2, 10-in.	2 95	
Parker.....	50&5%		Prices for Galvanized Toncan			Revolving Spring.			" No. 2, 10-in.	3 00	
NAILS.			Metal, Genuine O. H. Iron, Lyon-			Stearns, No. 10.....	per doz. \$ 8 00		Cross-Cut.		
Cut Steel.....	\$4 45		more Metal and Keystone C. B.			" No. 60.....	16 00		Atkins No. 221, 4-ft.....	2 70	
Cut Iron.....	4 45		on application.			Parker Metal Punch No.			" No. 221, 6-ft.....	10	
Wire.			Plain Round and Round Corru-			OX.....	each \$7 00		" No. 221, 8-ft.....	5 45	
Common.....	3 00		gated.			Whitney's Ball Bearing..	Prices on application		Flooring.		
Cement Coated.			29 Gauge.....	40%		PARERS.			Atkins No. 96, 16-in.....	19 95	
Small Lots.....	2 65		28 ".....	35%		Goodell's.....	per doz. \$10 80		" No. 96, 20-in.....	21 85	
Horseshoe.			26 ".....	10%		Turntable.....	11 40		Hand and Rip.		
Ausable.....	55&5%		24 ".....	10%		White Mountain.....	8 40		Atkins No. 54, 20-in.....	17 75	
Capewell.....	15%		Square Corrugated A and B			Reading No. 78.....	11 40		" No. 54, 26-in.....	23 10	
Perfect.....	55&5%		Polygon and Octagon.			PUTTY.			" No. 53, 20-in.....	20 80	
Putnam.....	20&5%		29 Gauge.....	40%		Commercial Putty, 100-lb.			" No. 53, 24-in.....	24 20	
Star.....	30&5%		26 ".....	30%		kits.....	\$4 75		" No. 53, 28-in.....	28 60	
NETTING, POULTRY.			24 ".....	10%		RAKES.			" No. 53, 30-in.....	31 95	
Galvanized before weaving.....	50%		14 and 16-oz. Copper, all de-			Garden			Keyhole.		
Galvanized after weaving.....	40%		signs.....	10%		Steel, Bow, 12-inch Teeth	\$3 50		Atkins No. 1, complete..	2 80	
NIPPERS.			Milcor, all styles and gauges, Net			Steel, Bow, 14-inch	9 25		" No. 2, complete..	3 35	
End Cutting.			Standard Gauge.....	70&5%		Malleable Iron, 12-in.	4 75		Miter Box.		
Berg's (Swedish) In. 5	6		Crated and nested.....	70&5%		Malleable Iron, 14-in.	5 00		Atkins No. 1, 4x20.....	29 70	
Per dozen.....	\$12 60 15 20		Crated, not nested.....	70&5%		PUTTY.			" No. 1, 5x22.....	24 55	
End and Diagonal Cutting.			Portico Elbows.			Commercial Putty, 100-lb.			" No. 1, 6x22.....	33 35	
Berg's (Swedish) In. 5	6		Standard Gauge Conductor Pipe,			RAZORS.			Pruning.		
Per dozen.....	\$10 05 13 00		plain or corrugated.			Gillette.....	per doz. \$45 00		Atkins No. 20, 12-in.....	7 70	
Heller's.....	40&10%		Not Nested.....	70&5%		Auto Strop.....	45 00		" No. 10, 16-in.....	16 50	
V. & B., No. 52, each.....	\$2 25		Nested solid.....	70&5%		Gem.....	8 40		Wood.		
NOZZLES.			Stove.			Gem (2 doz. lots).....	8 00		Atkins No. 202.....	8 50	
Magic.....	per doz. \$9 50		26 gauge, 5 inch E. C.			Ever Ready (3 doz. lots).....	8 00		" No. 318.....	10 05	
Diamond.....	5 75		26 gauge, 6 inch E. C.			RAZORS—STRAIGHT.			" No. 905.....	15 65	
OILERS.			26 gauge, 7 inch E. C.			RAZOR STROPS.			" No. 1509.....	18 40	
Chase Pattern.			28 gauge, 5 inch E. C.			Star (Honing).....	50%		SCOOFS		
Brass and Copper.....	18%		28 gauge, 6 inch E. C.			REGISTERS.			Hubbard Western Pattern Riveted.		
Zinc.....	20%		28 gauge, 7 inch E. C.			Cast Iron.....	30%		Size A B C D		
Railroad.			28 gauge, 8 inch E. C.			Steel and Semi-Steel.....	50%		1.. \$16 75 16 00 15 25 14 45		
Coppered.....	33 1/2%		28 gauge, 9 inch E. C.			Baseboard.....	50%		4.. 17 85 17 10 16 35 15 60		
Steel.			30 gauge, 5 inch E. C.			Adjustable Ceiling Ventilators	50%		6.. 18 65 17 85 17 10 16 35		
Copper Plated.....	50-10-5%		30 gauge, 6 inch E. C.			Register Faces—Cast and Steel			SCRAPERS.		
OPENERS.			30 gauge, 7 inch E. C.			Japanned, Bronzed and Plated.			Triangular No. 6 per doz.	\$6 25	
Can.			30 gauge, 8 inch E. C.			4x6 to 14x14.....	50%		Road.		
Delmonico.....	per doz. \$1 30		30 gauge, 9 inch E. C.			Large Register Faces—Cast,			Cubic ft.	7 5 3	
Never Slip.....	65		T-Joint Made up.			14x14 to 38x42.....	65%		With runners, ea.	\$7 00 6 50 6 20	
CRATE.			6-inch.....	per 100 35 00		Large Register Faces—Steel,			SCREEN DOOR HINGES.		
V. & B.....	per doz. \$7 25-11 00		Furnace Pipe.			14x14 to 38x42.....	70%		Cast iron.....	gross \$13 00	
FAILS.			Double Wall Pipe and Fitting			RIDGE ROLL.			Steel.....	9 50	
Cream.			Single Wall Pipe, Round			Galvanized.			SCREWS.		
14-qt. without gauge,			Pipe Fittings.....	65%		Crated.....	70-25%		Bench.		
18-qt. without gauge,			Galvanized and Back Iron			Wired.....	70-25-5%		Iron, Ins. 1 1 1/4 1	1 1/4	
20-qt. without gauge,			Pipe, Shoes, etc.....	55%		Milcor.....	Net		\$6 82 7 87 9 45 16 80		
.....	per doz. 11 75		Milcor, galvanized.....	Net		RINGS AND RINGERS.			Wood, white maple, per doz.	6 00	
Sap.			PLANES.			Copper.....	2 1/2-in. 3-in.		Hand—Wood.....	50%	
10-qt., IC Tin.....	per doz. \$4 00		Stanley Iron Bench.....	Net		Per doz.....	\$2 40 \$2 65		Hand Rail.....	22%	
12 ".....	5 50		PLIERS.			Rea's Improved Self-			Jack.....	30%	
Stock.			V. & B. No. 6.....	each \$0 57		Piercing copper,			Lag or Coach—all sizes,		
Galv. qts. 14 16 18 20			" No. 7 Gas.....	0 60		Steel, per doz.....	3 40 1 80		gimlet pointed.....	65%	
Per doz. \$9 75 10 75 12 75 14 50			" Double Duty 106.	0 56		FRUIT JAR.			Saw—Centennial,		
Water.			" Nut No. 3.....	0 64		White.....	per lb. 80		No.	1 2 3 4	
Galvanized qts. 10 12 14			Lineman's Side Cutting.			SCYTHES.			Per doz.....	47c 55c 75c 90c	
Per doz.....	\$5 75 6 50 7 25		Berg's			Clipper, Grass.....	per doz. \$13 50		Sheet Metal.		
Wood.			(Swedish), In. 6 7 8			Honest Dutchman.....	13 00		No. 7, 1/4x1/4, per gross..	\$ 55	
Cable, 2-Hoop.....	per doz. Nets		Blk. Pol. Face,			BOX.			No. 10, 1/4x3/16 per gross..	.75	
Cable, 3-Hoop.....	" Nets		doz.	\$10 70 20 00 23 35		Triangular No. 6 per doz.	\$6 25		No. 14, 1/4x1/4 per gross....	.90	
Cedar, 3-Hoop, brass.....	" Nets		Long Nose Side Cutting.			SCREEN DOOR HINGES.			SCYTHES.		
PANS.			Berg's (Swedish) In. 5	6		Cast iron.....	gross \$13 00		Per doz.....	47c 55c 75c 90c	
Dripping.....	Net		Blk. Pol. Face, doz. \$12 25	15 20		Steel.....	9 50		F. H. Bright.....	82 1/2 & 16 1/4	
Fry.			Flat and Round Nose.			RINGS AND RINGERS.			R. H. Blued.....	80%	
Common.....	Nets		Berg's (Swedish)			Copper.....	2 1/2-in. 3-in.		F. H. Jap'd.....	75 & 10 & 5%	
Acme.....	"		Flat, In. 4 6 8			Per doz.....	\$2 40 \$2 65		F. H. Brass.....	77 1/2 & 10 & 5%	
Roasting.			Blk. Pol. Face,			Rea's Improved Self-			R. H. Brass.....	75 & 10 & 5%	
Paxton,			doz.	\$8 90 13 35 19 65		Piercing copper,			SCYTHES.		
No.	1 2 3 4		Berg's (Swedish)			Steel, per doz.....	3 40 1 80		Clipper, Grass.....	per doz. \$13 50	
Per doz.....	Nets		Round, In. 4 6 8			FRUIT JAR.			Honest Dutchman.....	13 00	
Neverburn.....	"		Blk. Pol. Face			White.....	per lb. 80		SCYTHES.		
Savory, No. 200, per doz.	\$8 40		Doz.	\$11 15 16 30 22 35		BOX.			Per doz.....	47c 55c 75c 90c	

SETS.

Nail.		
Square head.....per doz.	1	84
Cup point, knurled ..	1	78
Rivet.		
Farmers'	per doz.	2 50
Tinners' 3-4		5 75
" 00-0		3 75

Saw.		
Atkins No. 10.....per doz.	\$3	80
" No. 12.....	6	20
Disston's Monarch		
No. 2.....	9	90
Disston's Monarch		
No. 12.....	13	20
Leach's	"	30
Nash's Hand	"	3 15
Nash's X-Cut	"	4 20
Stillman's Lever.....	"	1 30
Stillman's X-Cut.....	"	2 50
Whiting Pattern,		
No. 21	"	7 50
Eccentric Anvil,		
Hand No. 395,		
N. P. Norrill		
Pattern	"	14 50

SHEARS.

Nickel Plated, Straight,	6"	\$12 90
" " " " "	7"	14 85
" " " " "	8"	16 80
Japanned, Straight	6"	11 00
" " " " "	7"	12 40
" " " " "	8"	13 80

SHEAVES, SLIDING DOOR.

Common.		
Inches	3	4
Per set	\$1 40	1 75 2 40
Hatfield's.		
Per set	\$1 80	2 10 2 75 2 50

SHINGLES.

Zinc (Illinois)	Per Square	\$15 00
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SHOES.

Conductor	60%
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SHOVELS AND SPADES.

Hubbard's					
No. A	B	C	D		
1	16 00	15 10	14 45	13 70	
2	16 35	15 60	14 85	14 10	
3	16 75	16 00	15 25	14 45	
4	17 10	16 35	15 60	14 85	

Post Drains & Ditching.

Hubbard's					
Size	A	B	C		
14"	17 15	16 40	15 65		
16"	17 50	16 75	16 00		
18"	17 85	17 10	16 35		
20"	18 20	17 45	16 70		
22"	18 55	17 80	17 05		

Alaska Steel.		
D-Handle	per doz.	\$3 50
Long Handle		3 00

SKATES.

Roller.		
Ball Bearing—Boys'	\$1	50
Ball Bearing—Girls'	1	60

SNAPS, HARNESS.

Covered Spring	Add 30%
Judd's Pattern Add 33 1-6 to list	

SNATHS.

Double Ring Bush.....per doz.	\$ 9 75
Patent Loop, Bush.....	10 00
Patent Loop, Grass.....	8 75

SNIPS, TINNERS'.

Clover Leaf	40&10%
National	40&10%
Star	50%
Milcor	Net

SPRINGS, DOOR.

Perfect.					
Nos.	2	3	4	5	6 7
Per doz. 45c 50c 55c 65c 80c 90c					

Reliance.		
Light Medium Heavy		
Per doz.	\$1 50	2 40 3 75
Torrey's	per doz.	1 65

SPRINKLERS, LAWN.

Stearn's No. 1.....per doz.	\$11 50
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SQUARES.

Steel and Iron.....Net	
(Add for bluing, \$3.00 per doz. net)	
Mitre	"
Try	"
Try and Bevel	"
Try and Miter	"
Fox's	per doz. \$5 00
Winterbottom's	10%

STAPLES.

Blind.		
Barbed	per lb.	21 @ 22c
Butter, Tub	"	16 @ 19c

Fence—		
Polished	per 100 lbs.	\$5 45
Galvanized		6 15

Netting.		
Galvanized	per 100 lbs.	6 54

Wrought.		
Wrought Staples, Hasps and		
Staples, Hasps, Hooks and		
Staples, and Hooks and		
Staples	60&10%	
Extra heavy	35%	

STONES.

Axe.		
Hindustan	per lb.	New Nets
More Grit	"	"
Washita	"	"

Emery.		
No. 126.....per doz.	New Nets	

Oil—Mounted.		
Arkansas Hard		
No. 7.....per doz.	New Nets	
Arkansas Soft		
Washita No. 717	"	"

Oil—Unmounted.		
Arkansas Hard per lb.	New Nets	
Arkansas Soft		
Lilly White	"	"
Queer Creek.....	"	"
Washita	"	"

Seythe.		
Black Diamond per gro.	New Nets	
Crescent	"	"
Green Mountain	"	"
LaMolle	"	"
Extra Quinne-		
bog	"	"
Red End	"	"

STOPS, BENCH.

No. 10 Morrill pat-		
tern	per doz.	\$11 00
No. 11 Stearns pat-		
tern	"	10 00
No. 15 Smith pattern	"	7 00

STOPPERS, FLUE.

Common	per doz.	\$1 10
Gem, flat, No. 3.....	"	1 00
Gem, No. 1.....	"	1 10

STRETCHERS.

Carpet.		
Bullard's	per doz.	\$3 90
Excelsior	"	5 25
Malleable Iron.....	"	70
Perfection	"	6 30
King	"	4 50

Wire.		
O. S. Elwood, No. 1 per doz.	Nets	
O. S. Elwood, No. 2	"	

SWIVELS.

Malleable Iron	per lb.	\$0 10
Wrought Steel	per gro.	4 50

TACKS.

Bill Posters' 6-oz., 25-lb. boxes		
per lb.		15c
Upholsterers' 6-oz., 25-lb.		
boxes, per lb.		15½c

TAPES, MEASURING.

Asses' Skin	List & 40%
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THERMOMETERS.

Tin Case.....per doz.	80c & \$1 25
Wood Back.....	\$2 00 & 12 00
Glass	12 00

TIES.

Bale.		
Single Loop, carload		
lots	75&7%	
Single Loop, less than		
car lots	70&15%	

TRAPS.

Game with Chains.		
Victor No. 1.....	\$1 83	
Oneida Jump No. 1.....	2 20	
Newhouse No. 1.....	4 88	

Mouse and Rat. List per gross.

Sure Catch Mouse Traps.....	\$ 3 70
Vim Mouse Traps.....	3 70
Short Stop Mouse Traps.....	3 20
Wood Choker Mouse	
Traps, 4 hole.....	17 00
Sure Catch Rat Traps.....	16 00
Vim Rat Traps.....	16 00
Short Stop Rat Trap.....	15 00
Dead Easy Rat Traps.....	17 00
Star Rat Traps.....	50 00
Erie	54 00

Packed in One Bushel Band Stave

Baskets.

List per bushel.

Sure Catch Mouse Traps	(360 Traps)	\$ 9 30
Short Stop Mouse Traps	(360 Traps)	8 00
Sure Catch Rat Traps (54	Traps)	6 00
Short Stop Rat Traps (54	Traps)	5 60
Assorted Mouse and Rat Traps.		
List per bushel		
Sure Catch (216 Mouse	Traps and 26 Rat Traps)	\$8 50
Short Stop (216 Mouse	Traps and 26 Rat Traps)	7 50

TROWELS.

Cement.		
Atkins No. 6.....	19 50	
No. 9.....	25 50	
Disston's	20%	

TUBS, WASH.

Standard Wood.		
No. 3	2	1 large
Per doz. \$9 50	11 25	12 75 15 50
Galvanized.		
No.	1	2 3
Per doz.	13 75	15 95 18 60

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AMERICAN ARTISAN
AND
HARDWARE RECORD
when writing to advertisers

TWINE.

White Cotton.		
Eureka, 4-ply.....per lb.	30c	
Jute.		
3-ply and 6-ply Bale Lots.	22½c	

VALLEY.

Formed Valley Galvanized		
Steel	60-5%	
Milcor	Net	

VISES.

No. 700, Hand.					
Inches	4½	5	5½		
Doz.	\$11 15	13 00	14 85		
No. 701, In.	4	5	6		
Doz.	\$11 15	13 00	16 70		
No. 1, Genuine Wentworth,					
Noiseless Saw.....per doz.	15 00				
No. 2, Genuine Wentworth,					
Noiseless Saw.....per doz.	22 50				
No. 3, Genuine Wentworth,					
Noiseless Saw.....per doz.	20 00				
No. 500, All Steel Folding					
Saw	per doz.	16 00			

WASHERS.

Standard O. G. cast iron, per		
lb.	3½c	
Wrought steel in 5-lb. boxes,		
per lb.		
In.	3/16 ¼ 5/16 ¾ 1	
15c 14c 12c 11c 10c		
¾ ¾ ¾ 1		
9½c 9c 8c 8c		

WEDGES.

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Orbon Stove Co., Bellville, Illinois
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Scheible-Moncrief Heater Co., Cleveland, Ohio
Schwab & Sons Co., R. J., Milwaukee, Wis.
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Utica Heater Co., Utica, N. Y.
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Malleable Iron Range Co., Beaver Dam, Wis.
Matthews Banner Range Co., South Bend, Ind.
Quick Meal Stove Co., St. Louis, Mo.
- Ranges—Gas.**
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Dangler Stove Co., Cleveland, O.
Matthews Banner Range Co., South Bend, Ind.
Quick Meal Stove Co., St. Louis, Mo.

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Hall-Neal Furnace Co., Indianapolis, Ind.

Registers—Warm Air.

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Zideck School of Sheet Metal Trades, New York, N. Y.

Schools—Sheet Metal Pattern Drafting.

St. Louis Technical Institute, St. Louis, Mo.

Zideck Auto Radiator School, New York, N. Y.

Schools—Automobile Radiator Repairing.

Zideck Auto Radiator School, New York, N. Y.

Screens—Perforated Metal.

Harrington & King Perforating Co., Chicago, Ill.

Screws—Sheet Metal.

Parker Supply Co., New York, N. Y.

Screw Drivers.

North Bros. Mfg. Co.,

Shears—Hand and Power.

Philadelphia, Pa.

Ewert & Kutscheld Mfg. Co., Chicago, Ill.

Marshalltown Mfg. Co., Marshalltown, Iowa

Viking Shear Co., Erie, Pa.

Sheets—Asbestos

Manny Heating Supply Co., Chicago, Ill.

Sheets—Black and Galvanized.

American Rolling Mill Co., Middletown, Ohio

Inland Steel Co., Chicago, Ill.

Osborn, The J. M. & L. A., Cleveland, Ohio

Sykes Co., The, Chicago, Ill.

Sheets—Iron.

American Rolling Mill Co., Middletown, Ohio

Shields—Heat Radiator.

Thomas & Armstrong Co., The, London, Ohio

Shingles—Zinc.

Illinois Zinc Co., New York, N. Y.

Sifters—Ash.

Diener Mfg. Co., G. W., Chicago, Ill.

Sifters—Flour.

Meyers Mfg. Co., Fred J., Hamilton, Ohio

Sky Lights.

Burton Co., W. J., Detroit, Mich.

Messinger & Parks Mfg. Co., Aurora, Ill.

Sykes Co., The, Chicago, Ill.

Smoke Pipe—Cast Iron.

Manny Heating Supply Co., Chicago, Ill.

Waterloo Register Co., Waterloo, Iowa

Solder.

Chicago Solder Co., Chicago, Ill.

Soldering Furnaces.

Ashton Mfg. Co., Newark, N. J.

Bernz Co., Otto, Newark, N. J.

Burgess Soldering Furnace Co., Columbus, Ohio

Clayton & Lambert Mfg. Co., Detroit, Mich.

Diener Mfg. Co., G. W., Chicago, Ill.

Double Blast Mfg. Co., North Chicago, Ill.

Hones, Inc., Chas. A., Baldwin, Long Island, N. Y.

Quick Meal Stove Co., St. Louis, Mo.

Turner Brass Works, Sycamore, Ill.

Specialties—Hardware.

Bullard & Gormley, Chicago, Ill.

Diener Mfg. Co., G. W., Chicago, Ill.

Hardware Specialty Co., Fort Wayne, Ind.

Heller Bros. Co., Newark, N. J.

Hessler Co., H. E., Syracuse, N. Y.

Hyfield Mfg. Co., New York, N. Y.

Lovell Mfg. Co., Erie, Pa.

Parker Supply Co., New York, N. Y.

Vaughan & Bushnell Mfg. Co., Chicago, Ill.

Sporting Goods.

Bullard & Gormley, Chicago, Ill.

Stains—Oil and Acid.

Federal Varnish Co., Chicago, Ill.

Stars—Hard Iron Cleaning.

Fanner Mfg. Co., Cleveland, Ohio

Statuary.

Friedley-Voshardt Co., Chicago, Ill.

Gerock Bros. Mfg. Co., St. Louis, Mo.

Stoves—Camp.

Quick Meal Stove Co., St. Louis, Mo.

Stoves—Gasoline and Kerosene.

American Stove Co., St. Louis, Mo.

Clark & Co., Geo. M., Chicago, Ill.

Dangler Stove Co., Cleveland, O.

Quick Meal Stove Co., St. Louis, Mo.

Stoves and Ranges.

American Stove Co., St. Louis, Mo.

Clark & Co., Geo. M., Chicago, Ill.

Clinton Furnace Stove Co., Clinton, Ind.

Copper Clad Malleable Range Co., St. Louis, Mo.

Dangler Stove Co., Cleveland, O.

Gohman Bros. & Kahler, New Albany, Ind.

Independent Stove Co., Owosso, Mich.

Jungers Stove & Range Co., Grafton, Wis.

Malleable Iron Range Co., Beaver Dam, Wis.

Michigan Stove Co., The, Detroit, Mich.

Orbon Stove Co., Belleville, Ind.

Quick Meal Stove Co., St. Louis, Mo.

Stove Pipe Reducer.

Sullivan-Geiger Co., Indianapolis, Ind.

Tacks, Staples, Spikes.

American Steel & Wire Co., Chicago, Ill.

Tiles and Shingles—Metal.

Burton Co., W. J., Detroit, Mich.

Cortright Metal Roofing Co., Philadelphia, Pa.

Hopson Co., W. C., Grand Rapids, Mich.

Illinois Zinc Co., New York, N. Y.

Milwaukee Corrugating Co., Milwaukee, Wis.

Thomas & Armstrong Co., The, London, Ohio

Tinplate.

Osborn Co., The J. M. & L. A., Cleveland, Ohio

Tin—Perforated.

Harrington & King Perforating Co., Chicago, Ill.

Tools—Auto Repair.

Curtman Mfg. Co., F. L., Maryville, Mo.

Tools—Carpenter.

Vaughan & Bushnell Mfg. Co., Chicago, Ill.

Tools—Tinsmith's.

Bertsch & Co., Cambridge City, Ind.

Dreis & Krump Mfg. Co., Chicago, Ill.

Ewert & Kutscheld Mfg. Co., Chicago, Ill.

Hopson Co., W. C., Grand Rapids, Mich.

Maplewood Machinery Co., Chicago, Ill.

Marshalltown Mfg. Co., Marshalltown, Iowa

Osborn Co., The J. M. & L. A., Cleveland, Ohio

Vaughan & Bushnell Mfg. Co., Chicago, Ill.

Viking Shear Co., Erie, Pa.

Whitney Mfg. Co., W. A., Rockford, Ill.

Whitney Metal Tool Co., Rockford, Ill.

Torches.

Ashton Mfg. Co., Newark, N. J.

Bernz Co., Otto, Newark, N. J.

Burgess Soldering Furnace Co., Columbus, Ohio

Clayton & Lambert Mfg. Co., Detroit, Mich.

Diener Mfg. Co., G. W., Chicago, Ill.

Double Blast Mfg. Co., North Chicago, Ill.

Hones, Inc., Chas. A., Baldwin, Long Island, N. Y.

Quick Meal Stove Co., St. Louis, Mo.

Turner Brass Works, Sycamore, Ill.

Transit Companies.

Cleveland & Buffalo Transit Co., Cleveland, Ohio

Trimnings—Stove.

Fanner Mfg. Co., Cleveland, Ohio

Valves—Humidifier.

Haynes, Kansas City, Mo.

Varnishes.

Cornish & Co., J. B., Chicago, Ill.

Federal Varnish Co., Chicago, Ill.

Ventilators.

Berger Bros. Co., Philadelphia, Pa.

Friedley-Voshardt Co., Chicago, Ill.

Messinger & Parks Mfg. Co., Aurora, Ill.

Milwaukee Corrugating Co., Milwaukee, Wis.

Standard Ventilator Co., Lewisburg, Pa.

Thomas & Armstrong Co., The, London, Ohio

Ventilators—Ceiling.

Hart & Cooley Co., New Britain, Conn.

Henry Furnace & Fdy. Co., Cleveland, Ohio

Tuttle & Bailey Mfg. Co., New York

Water Heaters—Oil Burning.

Dangler Stove Co., Cleveland, O.

Wire.

American Steel & Wire Co., Chicago, Ill.

Wrenches.

Coes Wrench Co., Worcester, Mass.

Wringers—Clothes.

Lovell Mfg. Co., Erie, Pa.

Zinc.

Illinois Zinc Co., New York, N. Y.

New Jersey Zinc Co., The, New York, N. Y.

Zinc—Slab.

Illinois Zinc Co., New York, N. Y.